

A C C S

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FOR 53
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VOL. LXXXII No. 2128

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as a newspaper]

LONDON, FEBRUARY 27, 1960

PRICE ONE SHILLING

Proposed Red Tape Reductions

WITH the purpose of reducing the customs, immigration and public health formalities required when people or goods cross national borders, the International Civil Aviation Organisation was proposing a series of alterations to the present international standards and recommended practices, said Dr. A. Kotaite (Lebanon), chairman of the I.C.A.O. Air Transport Committee. More than 50 recommendations, all aimed at further formality reductions, were proposed by the I.C.A.O. facilitation division which met recently in Rome; these have now been reviewed by the air transport committee and are being sent to the 76 member governments of I.C.A.O. for their comments. The most important of these recommendations involve the elimination of the passenger manifest, simplification of the aircraft's general declaration (the basic document for the clearance of an aircraft by customs, immigration and public health officials), elimination of visas for tourists and other temporary visitors, acceptance by states of oral baggage declarations, elimination of outbound baggage declarations, abolition of tax clearance certificates, clearance of inbound cargo on a sampling or selective basis, and the introduction of provisions designed to speed the flow of all categories of traffic through airports and to provide the maximum assistance for transfer passengers and transshipment cargo. "After we have received states' comments," said Dr. Kotaite, "our air transport committee and the I.C.A.O. council will take final action by making those recommendations that they accept part of I.C.A.O.'s International Standards and Recommended Practices for Facilitation which are Annex 9 to the Convention on International Civil Aviation. This action will probably take place in May of this year, and after it we shall start to work again on a further reduction in red tape."

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Cumbernauld Development

OPPORTUNITIES for industrialists seeking space for expansion, offering modern buildings, excellent communications and local skilled labour, are described in a brochure recently published by the Cumbernauld Development Corporation. Cumbernauld by Glasgow is the latest of the new towns set up under the New Towns Act, 1946, and has a direct obligation to help in relieving overcrowding in Scotland's largest city. It has a target population of 50,000, which is to be realised as soon as possible;

CURRENT TOPICS

it aims to be an entirely self-contained community with its own industry. The new town has much to offer the industrialist; it lies fairly centrally in the Scottish industrial belt midway between Glasgow and Grangemouth, where the trunk road from Carlisle and the south (A73) joins the trunk road from Glasgow to Stirling and the north (A80). Glasgow and Grangemouth docks are each less than an hour away by road, Edinburgh and Leith are but 32 miles distant and British Railways plans to build a new station and extensive sidings at Cumbernauld on the

Railcar Transmissions

TYPICAL of the valuable papers read before the Institution of Locomotive Engineers was that on self-propelled diesel railcar transmission design presented recently by Mr. A. Gordon Wilson, A.M.I.Mech.E., of Self Changing Gears, Limited. A brief historical survey preceded a review of the various transmission systems available and their influence on other railcar features and on performance and costs of operation and maintenance. Mr. Wilson went

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Carlisle—Stirling main line. Three major airports are all less than 50 miles away. The development corporation has sites available in three main industrial areas, all within walking distance of housing developments. The intention is to cater for a range of industrial requirements from the very small unit to the large factory employing thousands. Various types of standard and specialised building will be available on lease or sites can be acquired for private development.

London Airport Pipeline to Start

PIPELINE delivery of aviation fuel to London Airport is to start next month, when two six-inch diameter pipelines, running nine miles underground from a depot at Walton, will deliver into two of the Shell-Mex and B.P. storage points at the airport. Hitherto road tankers have fed London Airport from storages at Purfleet and Shell Haven, on the Thames Estuary, and over the year a daily average of 40 tankers, the largest with a capacity of 4,000 gallons, have been needed for the round trips of roughly 80 and 100 miles to the airport and back. At peak periods during the summer, 60 tankers a day were needed to meet the heavy fuel demand. The new pipelines, which will pump fuel initially at about 30,000 gallons an hour, will ensure adequate supplies in all weather and traffic conditions and rule out the possibility of delivery delays due to bad weather or road congestion. At first, the aviation turbine fuel will be delivered into storage at the Walton depot, which is on the south side of the Thames, from the Shell-Mex and B.P. installation at Hamble, on Southampton Water. Later in the year it is planned to provide also for the piping of supplies to Walton from Kent refinery, near the mouth of the Thames, along the 65-mile Government pipeline built during the war. This pipeline, which runs from the Isle of Grain to Walton, is now being renovated and transport along it will be charged to Shell-Mex and B.P. by the Government.

on to outline the requirements of railcars for various types of service and continued with a detailed description of a hydromechanical system developed by his own company and British United Traction, Limited, to meet special requirements of Ulster Transport Authority railcar stock, giving reasons for the selection of particular units. Among the conclusions drawn by the author was that for railbuses, which had to compete with road transport, as much as possible should be copied from road practice. On railcars generally, it was impossible to justify transmissions that wasted passenger space, fuel, weight or first cost unless proportionate savings could be shown in other directions. For main-line services, such items as twin-axle drive, the advantages of which were confined to small improvements when starting from rest, could be dispensed with; exceptions were vehicles for congested urban services, where acceleration was a definite revenue earner, and those cars which had to haul tail loads. On these the extra expense and complication was justified; as many axles as possible should be driven and the transmission should be capable of applying the torque needed to bring the wheels almost to the point of slipping. The effect of the transmission on passenger comfort was, on the whole, marginal, he thought, and it would be difficult to justify additional cost on that score; heavy unsprung weight was probably the greatest single factor in riding comfort. Looking to the future, Mr. Wilson thought that the technical developments standing out as urgent requirements were a torque converter with a power loss of not more than 5 per cent, or at most 10 per cent over a torque range of 2 to 1, with a starting torque of 4 to 1; a simple gearbox with automatic gearchanging without the complication of electric or hydraulic devices; and a simple method of providing bi-directional running with a positive means of preventing any of the power units being turned in the wrong direction. These problems, he said, should be capable of solution.

A. W. S. on the Southern

FROM March 6 the Southern Region will introduce the automatic warning system (formerly dubbed, less accurately, automatic train control) at 71 distant signals over the 88 miles between Salisbury and Exeter. The B.R. standard apparatus is employed, actuated by a permanent magnet in the track and cancelled by an electro-magnet immediately in advance of it if the distant is at clear. This is part of a £500,000 scheme to be completed during the next three years to cover the Waterloo—Exeter and Waterloo—Bournemouth West main lines. Subsequently other main routes will be tackled. Opportunity is taken also to install B.R. standard block between signalboxes, to introduce glass fibre apparatus cases and to provide aerial or underground cable lines in lieu of open telegraph wire routes. Tests are being undertaken between Swanley Junction and Strood, where very heavy traction currents are common, to demonstrate the reliability of the equipment on third-rail electric routes. The best position for the pick-up apparatus on electric trains appears to be well away from the motors and the necessity of soft-iron screens for the track magnets is the subject of investigation.

Ticket Office Mechanisation at Euston

ANOTHER development to benefit the staff and, in this case, also to some extent the passengers is a modernised and completely re-equipped ticket office, which the London Midland Region brought into use at Euston on February 22. Situated near the entrance to the Great Hall, this new office represents the completion of the second of a three-stage scheme for the complete mechanisation of all ticket issuing at Euston. The main features of the new office are the five Multiprinter machines—which are each capable of printing and issuing 1,260 different kinds of tickets. In addition to printing and dating tickets, the machine records details of each issue for accountancy purposes, thus obviating the need for a considerable amount of clerical work. Manufactured by the German firm of A.E.G., the machines have been supplied by Westinghouse Garrard Ticket Machines, Limited. The third and final stage of this ticket office mechanisation scheme involves the re-equipment of the main booking office, which is also to be provided with five Multiprinter machines, and when the scheme is completed later this year, Euston will be the first London terminus to have fully mechanised ticket-issuing facilities.

Guide Lecturers

MUCH time, effort and money is spent by inland tour promoters in arranging sightseeing tours for parties arriving from overseas; sometimes the one feature of the trip which can help to make or mar their reputation is not provided for in advance. Most of the visitors who spend a few days in this country have no opportunity of meeting the natives of these islands. A hotel receptionist, chambermaid, a couple of waiters, one or two shop assistants may be the limit of their contacts. The guide lecturer, however, will spend many hours with the visitors representing the travel agent; in addition he helps visitors to form some opinion of the native character. A qualified and conscientious guide lecturer is therefore an essential link in the chain of people which goes to make up the efficient travel service and to ensure those personal recommendations which bring fresh business. A certain number of guide lecturers is contracted to the largest tour promoters, but there are substantial numbers who are freelancers. These guides fill their engagement books quite early in the year and are difficult to book in the height of the season. The Guild of Guide Lecturers has long realised these facts and offers practical assistance to the trade. Guild members comprise about 90 per cent of all the active persons who have qualified through British Travel and Holidays Association training and examination. As Guild members they carry passes to Ministry of Works, National Trust and other exhibitions and properties. Each year the Guild issues a membership list.

IMPORTANT CONTRACTS

Austrian Viscount Order Confirmed

SIGNATURE on the contract for the purchase of six Viscount V810 series turboprop air liners by A.U.A. (Austrian Airlines) has been announced by Vickers-Armstrongs (Aircraft), Limited. The A.U.A. Viscounts (sub-type V837) will be put into service from April next and will replace the four Viscount 700s which A.U.A. has been operating on charter from Fred Olsen Air-transport of Norway. This contract brings the total number of Viscounts sold to 416—including one V810 executive aircraft sold since the last news release on Viscount purchases was issued.

Ford Plant in Southern Rhodesia?

According to a Barclays Bank D.C.O. report from Salisbury, Southern Rhodesia, the Ford Motor Company is to erect an assembly plant there involving an anticipated investment of over £1½ million. The company is purchasing some 40 acres of industrial land and the plant is expected to produce about 27 vehicles daily when in full production and will be designed for expansion.

Guy Vixens for B.R.S.

British Road Services has placed a £270,000 order with Guy Motors, Limited, for 68 Guy Vixen chassis. As 72 similar vehicles bought six months ago by B.R.S., the new chassis will be fitted with pantechon bodies of 1,200 cu. ft. capacity and will go into service with Pickfords for furniture removal. More than 1,000 Guy vehicles have been bought by B.R.S. since 1951.

Oil Contracts in Australia

The biggest buyer of ships' bunkers in Australia, the Australian National Line, has signed a contract with BP for the exclusive supply of bunkers to their ships. The annual tonnage involved is estimated at 100,000 tons of marine fuel, 25,000 tons of diesel oil and 7,000 tons of gas oil. BP Australia has also gained a two-year contract to supply the bunker requirements of Broken Hill Proprietary at all Australian ports except Port Kembla.

South Wales Docks Contracts

The British Transport Commission (South Wales Docks) has placed the following contracts:

Davies, Middleton and Davies, Limited, for construction of railway bridge at Newport Docks.
Richard Dunston, Limited, for a new suction dredger for Port Talbot Docks.
The Demolition and Construction Co., Limited, for reconstruction of Phoenix Wharf and repairs to dock walls at King's Dock, Swansea.

The Fairfield Shipbuilding and Engineering Co., Limited, for superstructure of new transit shed at North Dock, Newport.

A.E.I. Equipment for Russia

The control gear division at Rugby of Associated Electrical Industries, Limited, is handling orders placed by Courtaulds, Limited, for the three latest synthetic-fibre plants being supplied to Russia. The equipment involved is for an acetate plant for the production of rayon, an acrylic fibre plant for the manufacture of Courtelle and a tyre-cord plant—the largest of the three, which includes individual motors up to 1,800 h.p. and 576 motors totalling 13,662 h.p.

Taylor Woodrow Builds for Ford Canada

Taylor Woodrow (Canada), Limited, has been awarded a \$5 million contract to build a new head office near Toronto for the Canadian Ford Company. The seven-storey building, with a total floor area of over 180,000 sq. ft., will have features including a series of external vertical aluminium fins to give a grid effect and a sawtooth design of alternate porcelain panels and glass on the west elevation. The building has been designed by Messrs. Allward and Gouinlock, architects, of Toronto.

More Gardner-engined Daimlers for Kowloon

A contract for the purchase of a further 40 Daimler double-deck buses has been awarded by the Kowloon Motor Bus Co. (1983), Limited, through Dodwell and Co., Limited, representing Transport Vehicles (Daimler), Limited, and Norris, Henty and Gardner, Limited. The chassis will be powered by Gardner five-cylinder 5LW diesel engines; they make a total of 110 Daimler-5LW Gardner double-deckers to be purchased by the Kowloon operator during the past 12 months. Over 640 Gardner-engined passenger vehicles have now been dispatched for operation in Hong Kong and Kowloon.

B.P. Purchases in 1959

During 1959, B.P. Trading, Limited (British Petroleum Company's principal trading subsidiary) placed orders for materials, equipment and services to the value of nearly £12,200,000. Of this total, orders worth £11,100,000 were placed in the United Kingdom, nearly 50 per cent being for export. In addition, refineries and other main subsidiaries of B.P. in the United Kingdom placed during the year orders valued at almost £4 million to cover their local requirements. Shipment of materials to overseas destinations by sea and air covered approximately 26,000 consignments amounting to more than 106,000 tons, at a freight cost of about £940,000.

A Dove for Leyland Motors

An important newcomer to the growing number of business houses employing their own aircraft is Leyland Motors, Limited, which recently placed an order for a Dove aircraft (de Havilland Gipsy Queen 70 geared engines driving de Havilland propellers), furnished for executive travel. The aircraft, which is due for delivery early in 1960, will be equipped to carry six passengers. It will be used principally by directors and senior executives who, in 1959, flew more than 1½ million miles by airlines maintaining contact with world markets. The Dove will be based at Samlesbury airfield, some eight miles from Leyland. It will be flown by the company's own pilot, but will be maintained and serviced by de Havilland.

B.U.T.-Engined Stock for London

New Derby-built multiple-unit train sets have arrived at Cricklewood diesel depot, London Midland Region, for service over London suburban routes, including the St. Pancras-Bedford route. Each train comprises two driving motor cars and two intermediate trailer cars, the motor cars being equipped with power, control and transmission equipment supplied by British United Traction, Limited. Two 230-b.h.p. six-cylinder B.U.T. horizontal diesels driving through SE4 gearboxes and RF28 reversing final drives are installed in each power car. Further sets of this type are to be delivered to Cricklewood where, for some time, two-car sets with B.U.T. 150-b.h.p. engines and allied equipment have been based and working the Kentish Town-Barking service.

SHIPPING AND SHIPBUILDING

World Marketing of Dracones

THE Dracone, a British development first evolved by a group of Cambridge scientists four years ago, is to be launched commercially throughout the world by a new company, Dracone Operations, Limited. The new company is backed mainly by associates of Hambros Bank, and of H. Clarkson and Company, ship brokers. Dracone Operations is also associated with Dracone Developments, Limited, an off-shoot of the Government-backed National Research Development Corporation, which first sponsored the development of this flexible sea-going container.

Autonomous Port Authority

MALACCA is to have a self-supporting autonomous port authority soon. Draft legislation is being prepared as a first step towards setting up the authority. The Malacca river mouth is to be dredged to its pre-war level.

Joint Cunard-Anchor Service

THIS week, the Anchor Line, Limited, and the Cunard Steam-Ship Co., Limited, commenced to operate jointly a service between the United Kingdom and the United States of America. Fast vessels will sail fortnightly from London calling at Le Havre and Glasgow for New York, Baltimore and Hampton Roads, returning from New York direct to London.

Better Shallow Sounding

A NEW type of echo-sounder is being fitted to vessels of the Shell tanker fleet. It will measure shallow clearances of water beneath the keel of a ship to within two feet. Kelvin and Hughes, Limited, in conjunction with Shell Tankers, Limited, has developed a model which is being fitted to new 18,000 d.w.t. tankers and the Marconi Marine Co., Limited, has designed a comparable unit, one of which has been fitted to a 32,000 d.w.t. tanker.

Largest Car Cargo to Pacific

THE newly built *Cape Sable* (10,660 gross tons) owned by the Lyle Shipping Co., Limited, Glasgow, has sailed on her maiden voyage for the U.S.A. with some 1,082 British cars of eight different makes—Austin, Morris, Jaguar, Vauxhall, Ford, Rootes Group, Standard and Rover. This is the biggest load of unboxed British cars to be shipped to the Pacific coast and has been made possible by special fittings of three extra car decks in her lower holds and one in tween decks so that the vehicles can be shipped in six tiers.

Impregnated Veneer Lifeboat

UNDERGOING weathering trials aboard the *Clan Chattan* of Clan Line Steamers is a new resin-impregnated veneer lifeboat developed by Fairey Marine, Limited. Without any type of covering it will hang from davits during a three months' voyage to Aden, Colombo, Madras, Calcutta and home again to Birkenhead. This gruelling test will expose the new lifeboat to climates ranging from winter in the Atlantic to the tropical conditions of the Red Sea. The 46-seat lifeboat evolved by the Fairey process consists of hot-moulding several layers of wood veneers and impregnation with synthetic resins to produce a light, strong, water-and-climate-proof hull.

Lobito Route More Competitive

BITISH and Continental shippers are said to have flooded shipping agencies with inquiries about using the Lobito route to Rhodesia and the Belgian Congo since the Lobito outward shipping conference cut tariffs to this West African port. The conference decision to abolish primage on rates to Lobito now makes shipment of cargoes from the U.K. and the Continent to the Copperbelt not only quicker but cheaper than by other routes, it is claimed. Therefore, the Lobito route to the Copperbelt is now in direct competition with the east coast routes via Beira and Lourenço Marques. It takes a cargo between 35 and 45 days from the U.K. to reach Ndola in Rhodesia via Lobito and the Benguela Railway against 49-59 days via Lourenço Marques and 59-66 days via Beira.

Underwriters Report

PRESENT day cargo rates, although perhaps slightly firmer than in recent years, are still unrealistic and only by careful selection can underwriters avoid a loss on their accounts, states the annual report of the Liverpool Underwriters Association. Unsatisfactory port conditions, deteriorating ship fire experience and the heavy incidence of theft and pilferage are all factors which tend to aggravate an already unfavourable position. The vexed problem of consignees using quays and warehouses as storage premises still exists. Delays in customs clearance at some ports also persist and very often result in serious congestion of cargo. These delays are not always the fault of the authorities and it is interesting to note that one port authority, in a serious endeavour to improve matters, has established new regulations which provide for a reduction in Customs storage rates for those consignees who clear their goods within specified periods. The delay in removing goods from the quays is one of the root causes of pilferage. Lack of supervision, rough handling and insecure warehousing are also contributory factors.

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

Isle of Man Steam Packet

In addition to raising the dividend to 6 per cent from 5½ per cent, the directors of Isle of Man Steam Packet Co., Limited, are recommending a bonus of 1 per cent (nil). Total income for 1959 advanced to £1,344,128 from £1,233,238 for 1958, while net profits after tax were £108,103 (£82,648).

British Oxygen

Gross net profit after tax and depreciation of the British Oxygen Co., Limited, was £4,521,380 (£3,584,082) and dividend for the year is 18 per cent (excluding a special interim of 2 per cent paid with the final dividend last year). This profit improvement was due principally to a widespread expansion and improvement in operations overseas.

Birmingham Railway Carriage

It was announced jointly by the Birmingham Railway Carriage and Wagon Co., Limited, and Charles Roberts and Co., Limited, that negotiations are taking place for a merger of the two companies. It was recently stated that the Birmingham company was seeking means of diversifying its output or improving prospects in other ways.

Factory-built for the
10-ton payload

The NEW Albion
REIVER

NOW available
with TWO
DRIVEN REAR AXLES

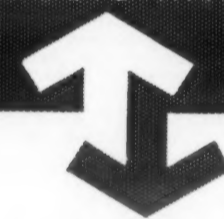
The Albion Reiver is not a 2-axle chassis with a third axle added. It is specifically designed and engineered from start to finish by the manufacturer for payloads which exceed the legal maximum for 2-axle chassis and which are uneconomical for the maximum load 6-wheeler. Following the recent introduction of the new single drive model, Albion now announces an additional Reiver range incorporating two driven rear axles with spiral bevel differentials and hub reduction gears, each of which is independently driven from a relay gearbox with air-operated locking differential. With g.v.w. of 15½ tons, and chassis and cab weighing only 91 cwt., a good margin remains for bodywork and a 10 ton payload. Available in two wheelbases of 15' 6" and 16' 8" for haulage, and one of 12' 2" for tipping.

- ★ Leyland 6-cylinder 0.375 diesel developing 105 bhp.
- ★ 14" single dry plate clutch hydraulically operated.
- ★ 5-speed gearbox with optional overdrive.
- ★ Relay gearbox with differential
- ★ Double drive hub reduction twin rear axles.
- ★ Air boosted hydraulic brakes.
- ★ Luxury style, wide vision cab with low entrance forward of the front wheel.



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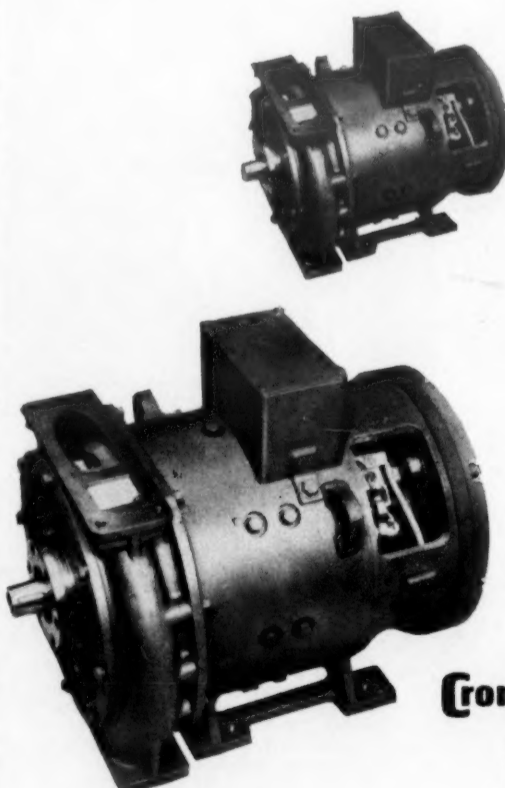
DESIGNING



AND MAKING
TRACTION EQUIPMENT

You, as an engineer, know that there can be no sharp dividing line between designing and building. A good design incorporates experience gained in making, testing and commissioning similar equipment in the past. And, of course, it is also shaped by the experience of all sorts of people using the earlier designs under a variety of conditions that could not be simulated in any test laboratory.

To a long-established company such as Crompton Parkinson this process of feedback of information to the designer is fundamental. In traction equipment, where space and weight must be kept down and yet robustness and accessibility are at a premium, it shows up in the simplicity and elegance with which these conflicting demands are reconciled. As, for example, by the special design of the ventilation of this railway compressor motor. The air circuit is continued by trunking to serve the compressor and its intercooler as well. In this design we were able to make direct use of the experience we had gained with earlier auxiliary motors—as well as more indirectly from hundreds of equipments built for main line locomotives, shunters, motor coaches and trolley buses.



Crompton Parkinson
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Carlisle—Stirling main line. Three major airports are all less than 50 miles away. The development corporation has sites available in three main industrial areas, all within walking distance of housing developments. The intention is to cater for a range of industrial requirements from the very small unit to the large factory employing thousands. Various types of standard and specialised building will be available on lease or sites can be acquired for private development.

London Airport Pipeline to Start

PIPELINE delivery of aviation fuel to London Airport is to start next month, when two six-inch diameter pipelines, running nine miles underground from a depot at Walton, will deliver into two of the Shell-Mex and B.P. storage points at the airport. Hitherto road tankers have fed London Airport from storages at Purfleet and Shell Haven, on the Thames Estuary, and over the year a daily average of 40 tankers, the largest with a capacity of 4,000 gallons, have been needed for the round trips of roughly 80 and 100 miles to the airport and back. At peak periods during the summer, 60 tankers a day were needed to meet the heavy fuel demand. The new pipelines, which will pump fuel initially at about 30,000 gallons an hour, will ensure adequate supplies in all weather and traffic conditions and rule out the possibility of delivery delays due to bad weather or road congestion. At first, the aviation turbine fuel will be delivered into storage at the Walton depot, which is on the south side of the Thames, from the Shell-Mex and B.P. installation at Hamble, on Southampton Water. Later in the year it is planned to provide also for the piping of supplies to Walton from Kent refinery, near the mouth of the Thames, along the 65-mile Government pipeline built during the war. This pipeline, which runs from the Isle of Grain to Walton, is now being renovated and transport along it will be charged to Shell-Mex and B.P. by the Government.

on to outline the requirements of railcars for various types of service and continued with a detailed description of a hydromechanical system developed by his own company and British United Traction, Limited, to meet special requirements of Ulster Transport Authority railcar stock, giving reasons for the selection of particular units. Among the conclusions drawn by the author was that for railbuses, which had to compete with road transport, as much as possible should be copied from road practice. On railcars generally, it was impossible to justify transmissions that wasted passenger space, fuel, weight or first cost unless proportionate savings could be shown in other directions. For main-line services, such items as twin-axle drive, the advantages of which were confined to small improvements when starting from rest, could be dispensed with; exceptions were vehicles for congested urban services, where acceleration was a definite revenue earner, and those cars which had to haul tail loads. On these the extra expense and complication was justified; as many axles as possible should be driven and the transmission should be capable of applying the torque needed to bring the wheels almost to the point of slipping. The effect of the transmission on passenger comfort was, on the whole, marginal, he thought, and it would be difficult to justify additional cost on that score; heavy unsprung weight was probably the greatest single factor in riding comfort. Looking to the future, Mr. Wilson thought that the technical developments standing out as urgent requirements were a torque converter with a power loss of not more than 5 per cent, or at most 10 per cent over a torque range of 2 to 1, with a starting torque of 4 to 1; a simple gearbox with automatic gearchanging without the complication of electric or hydraulic devices; and a simple method of providing bi-directional running with a positive means of preventing any of the power units being turned in the wrong direction. These problems, he said, should be capable of solution.

A. W. S. on the Southern

FROM March 6 the Southern Region will introduce the automatic warning system (formerly dubbed, less accurately, automatic train control) at 71 distant signals over the 88 miles between Salisbury and Exeter. The B.R. standard apparatus is employed, actuated by a permanent magnet in the track and cancelled by an electromagnet immediately in advance of it if the distant is at clear. This is part of a £500,000 scheme to be completed during the next three years to cover the Waterloo—Exeter and Waterloo—Bournemouth West main lines. Subsequently other main routes will be tackled. Opportunity is taken also to install B.R. standard block between signalboxes, to introduce glass fibre apparatus cases and to provide aerial or underground cable lines in lieu of open telegraph wire routes. Tests are being undertaken between Swanley Junction and Strood, where very heavy traction currents are common, to demonstrate the reliability of the equipment on third-rail electric routes. The best position for the pick-up apparatus on electric trains appears to be well away from the motors and the necessity of soft-iron screens for the track magnets is the subject of investigation.

Ticket Office Mechanisation at Euston

ANOTHER development to benefit the staff and, in this case, also to some extent the passengers is a modernised and completely re-equipped ticket office, which the London Midland Region brought into use at Euston on February 22. Situated near the entrance to the Great Hall, this new office represents the completion of the second of a three-stage scheme for the complete mechanisation of all ticket issuing at Euston. The main features of the new office are the five Multiprinter machines—which are each capable of printing and issuing 1,260 different kinds of tickets. In addition to printing and dating tickets, the machine records details of each issue for accountancy purposes, thus obviating the need for a considerable amount of clerical work. Manufactured by the German firm of A.E.G., the machines have been supplied by Westinghouse Garrard Ticket Machines, Limited. The third and final stage of this ticket office mechanisation scheme involves the re-equipment of the main booking office, which is also to be provided with five Multiprinter machines, and when the scheme is completed later this year, Euston will be the first London terminus to have fully mechanised ticket-issuing facilities.

Guide Lecturers

MUCH time, effort and money is spent by inland tour promoters in arranging sightseeing tours for parties arriving from overseas; sometimes the one feature of the trip which can help to make or mar their reputation is not provided for in advance. Most of the visitors who spend a few days in this country have no opportunity of meeting the natives of these islands. A hotel receptionist, chambermaid, a couple of waiters, one or two shop assistants may be the limit of their contacts. The guide lecturer, however, will spend many hours with the visitors representing the travel agent; in addition he helps visitors to form some opinion of the native character. A qualified and conscientious guide lecturer is therefore an essential link in the chain of people which goes to make up the efficient travel service and to ensure those personal recommendations which bring fresh business. A certain number of guide lecturers is contracted to the largest tour promoters, but there are substantial numbers who are freelancers. These guides fill their engagement books quite early in the year and are difficult to book in the height of the season. The Guild of Guide Lecturers has long realised these facts and offers practical assistance to the trade. Guild members comprise about 90 per cent of all the active persons who have qualified through British Travel and Holidays Association training and examination. As Guild members they carry passes to Ministry of Works, National Trust and other exhibitions and properties. Each year the Guild issues a membership list.

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The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements.

The Railways Again

THE feeling, following a meeting of Ministers concerned and allocation of special duties in the matter to Lord Mills, that at long last the problems of British Railways are being seriously considered by the Government must afford gratification, albeit tinged with anxiety lest their future be jeopardised by short-sighted and ill-informed decisions. That is one reason why in our last two issues we have devoted these columns to a review of the subject, to which we now return. Let us reiterate the hope that before any policy is adopted the British Transport Commission will have full opportunity for stating its views. Despite suggestions to the contrary, it is unlikely that the Government will produce anything like a detailed plan in time for acceptance of the Guillebaud report, which is estimated—on what basis is not known—to entail an additional annual expenditure of £50 million, a figure which, of course, includes the £19 million already conceded in the 5 per cent increase. Last week in the Commons Mr. R. A. Butler brushed aside an Opposition request for a debate on the railways with a promise that a statement on their future would be made "in due course." Some sort of declaration must obviously be issued as soon as possible. Certainly the position warrants the full-scale inquiry which both Opposition and Government supporters are demanding and the need for which we have been stressing for a considerable time. But such an inquiry would occupy many months, and its constitution and terms of reference weeks, especially if it is to embrace—as it undoubtedly should—the relationship of railways with other means of transport. On the short-term basis immediate action is necessary, and it should not be difficult to grant the Commission something on account, such as by way of writing off railway capital invested in non-revenue earning assets and, if necessary, advancing interest-free Government loans.

Nature of Government Action

AN early settlement on these lines, with an expression of the Government's intention to support the levelling-up of railway wages on the basis of the Guillebaud report, would restore morale throughout the railway system, stem the departure of skilled men and improve recruitment to the service. As to the long-term aspect, certainly the railways should be run as business concerns, but suggestions to this end are apt to ignore the fact that there is a limit—if this indeed has not already been reached—to the raising of their charges without impairing revenues and throwing more traffic (particularly commuters) on to the congested roads. The Government could help by making the public more conscious of the inevitability of the closing of unremunerative lines and services and by facilitating the processes involved. It should equally be realised that losses on facilities which the B.T.C. is compelled to maintain as a social service should be borne by the Exchequer. The Commission should know where it stands as soon as possible so

that it can resume urging trade and industry to re-examine what the fast-improving railway freight services can offer now and in the light of modernisation; voluntary action in this respect would be preferable to the restriction canvassed in certain quarters on the freedom enjoyed by the C-licensee. The quicker the railways are able to settle to their task and complete the urgently needed modernisation which can give them superiority in so many spheres, the greater likelihood of the already noticeable upsurge in freight traffic becoming a permanent trend. There is no reason why the recovery of the railways should not be as spectacular as that of British European Airways, or, indeed, as swift as their fall from financial grace.

Responsibility in the Regions

TRAFFIC recovery might perhaps be best encouraged by letting the area boards assume responsibility for both road and rail transport, with British Road Services well in the picture, as was envisaged when they were formed. We cannot, however, endorse the suggestion that the area boards should enjoy complete autonomy, with responsibility for their own administration and finances, to the extent of competing with one another—if indeed they can in their present geographical allocations. Some critics appear to envisage a return to pre-nationalisation conditions, with closer supervision by the Ministry of Transport through the medium of a truncated B.T.C. serving as a departmental appendage; in other words, a return to the waste and disadvantages of separate company management with the bare prospect of the return of the old company loyalties. The executive management of the B.E.T. area bus companies is not strictly analogous, but approaches the ideal. Moreover, close study of the proposal has failed to convince us of the advantages of hiving off ancillary activities which form an adjunct to rail transport and which have been improved financially under the aegis of the B.T.C. Hotels and restaurant cars, for example, provide an integral part of railway service, attracting passengers to rail travel, which is why the former companies stood losses on such facilities. Today, under the B.T.C., they are managed most satisfactorily. No one suggests the break up of diversified private enterprise groups with much less common purpose.

Cost of Works and Track

INDICATIVE of a desire to co-operate in solving the railway problem is a suggestion from Lord Sandhurst, former chairman of the British Road Federation, that the principles governing the roads should be applied to the railways. This would mean assumption by the Exchequer of responsibility for servicing the capital value of land and for maintaining the permanent way and signalling. This proposal would, of course, appear natural to a Frenchman. Many French and other overseas railways (in fact, practically every underground railway in the world outside London) were treated as highways by their governments or public authorities, and the works—cuttings, embankments, tunnels and bridges—were provided for the operating companies. As early as 1853 some 175 miles of the Nord had been so provided on a 3 per cent interest basis and the earthworks of over 200 miles of the Ouest of France system had been so built. In return the companies, allocated monopoly areas, had onerous public obligations. The important change Lord Sandhurst suggests could, of course, be effected fairly smoothly and without the financial and accountancy complications arising from an all-round allocation of track costs, the pros and cons of which were set out usefully by Sir Osborne Mance in the July, 1959, issue of the *Journal of the Institute of Transport*. Only after a scientifically conducted economic inquiry could it be decided if heavy road transport is indeed paying insufficient for its privileges of using the highway and whether, if so, it is expedient in the national interest to check it. At the same time such sights as a group of 14-ton coal tipplers over 100 miles from the nearest colliery do not seem on the face of it to show the best use of the country's transport resources; it is that optimum use of public transport equipment to which all parties and all remedies must surely subscribe.

NEWS SUMMARY

THE London Transport Executive has agreed to an increase in wages on its railways of 5 per cent, backdated like that of British Railways men to January 11. Earlier in the month Mr. A. H. Grainger, deputy-chairman, protested to the N.U.R. on the breaking or threatened breaking of agreements with the Executive over a period of years.

Conversion to standard gauge of the Iraqi State Railways metre gauge line from Baghdad to Basra has been formally inaugurated.

The Minister of Transport opened Castrol House, new headquarters of the Wakefield Castrol group, on Monday of this week. See page 12.

B.T.C. traffic receipts for the four weeks to January 31 totalled £48,777,000, against £46,378,000 for the same period in 1958.

I.C.T. has opened an electronic computer bureau available to industry in Birmingham. See page 12.

British Railways has announced an increase from 4s. to 5s. in the discount on return tickets for midweek travel during the holiday season.

Important decisions affecting the aircraft industry announced by the Minister of Aviation include the placing of orders to study the technical issues involved in developing supersonic transport aircraft. These have gone to the two major airframe groups and the two major aero engine groups.

TRANSPORT AND THE WORLD BANK

Results and Reactions

By Professor E. R. HONDELINK, M.I.C.E., M.Inst.T.

THE operation of international technical and financial assistance has produced some interesting results and reactions. The stringent conditions attached to World Bank loans have been gracefully, if not always gratefully, accepted as realistic business. In the 12 years of lending there has never yet been a hitch or default in interest and repayment commitments. The £1,500 million lent by the Bank is only part of worldwide expenditure in assistance of reconstruction and development schemes. A steadily increasing number of agencies, working under the auspices of U.N.O., of regional organisations and of individual governments as well as private trusts or foundations, provides funds and experts to assist under-developed countries.

A previous article by Professor Hondelink on the work of the World Bank in transport, dealing with the machinery of loans and surveys, appeared in "Modern Transport" of December 5, 1959

Impressive results have been achieved in many sectors, but in others duplication and overlapping have caused a considerable amount of waste of time and energy, manpower and money. Evidence of this is found in ill-fated schemes which have come to nothing, in unbalanced developments, premature expansion at one end and neglect at the other, unsuitable plant and equipment unused and rotting away in idleness, and lack of provision for the recurrent maintenance expenditures. To some extent this is caused by the attitude of the recipient countries, insistence on "no strings attached" and encouragement of each agency in turn until the assistance offered answers more closely to the ambitions of the recipient. It is also caused by excessive zeal on the part of the donor country to introduce its own methods, equipment and teams of experts in the various chosen fields.



The addition of Boeing 707-138 jet air liners to the Qantas Empire Airways fleet was accomplished with the aid of the World Bank

In the economic development of a young country the transport sector will ask for a major share of investment, technical and financial aid. What are known today as under-developed countries, with few exceptions, had, until the outbreak of the 1939-45 war, in ports and railways a well-advanced, adequate and efficient main transport system, generally financed by foreign investments and operated under foreign management. Road and internal air transport were still in the early stages of growth. The war years caused a standstill in road and air transport but put additional burdens on ports and railways, in countries outside the war theatres as well as in those engaged in active hostilities. Six years of war forced upon port and railway administrations overworking of equipment, little chance of renewals and restricted maintenance, often under depleted leadership and manpower, all of which had to be made good in postwar rehabilitation. This was the first problem.

However, for a considerable period after the end

of a number of networks of a fair size have invariably resulted in an organisation of a plus-one managements for the systems joined together. In such cases foreign aid in rehabilitation and expansion has been complicated and appreciably more costly.

During the 12 years of technical and financial assistance, the investigations concerned with development programmes and schemes have clearly shown that the most successful railway administrations still are those of medium size. These findings confirmed the conclusions of a prewar research into the operations of the main railway systems of the world. These put that medium size at a route-mileage of 3,000, serving an economically active population of roundly 10 million, handling traffic of up to 10,000 million passenger-miles and goods ton-miles combined, with a staff below the 100,000 mark. All these conclusions must allow for variations in one or more of these factors from system to system, but within fairly narrow margins they are sound. The two chief contributions to the successes of medium-size railways found in the earlier research, the first a minimum number of links in the chain of responsibility between top management and rank and file, the

second the closer personal contacts in the triangle of management, staff and public, have again become apparent in the postwar developments of assisted countries.

Roads

In road construction the underdeveloped countries have had the advantage of a start with modern methods and equipment elsewhere. The planning has tended to err towards over-emphasis on main trunk roads and on duplication with existing transport arteries at the expense of neglect of access roads to potential development areas and of feeder roads. As an example may be mentioned a country where a toll motorway of the highest standards is being built within an existing network of main and branch roads still far below a tolerable standard, and in the absence of organised traffic control. The main problem in road expansion has now become one of preservation and maintenance. Outside financial aid has been freely given for road development, but the recurrent annual expenditures for maintenance, steadily increasing as the years go by, must be met from internal resources, which are not as a rule readily available.

Road transport has in its early stages of development generally been disorderly and unorganised. The reason for this was chiefly the conception that one needed only to buy a lorry or a bus to be ready



Varied contributions to world communications in which World Bank has played a part: Telecommunications equipment in Ethiopia; above, a gas pipeline in Pakistan

to engage in public road transport. It was not realised that financial, technical and administrative skill and insight were essential, and that the road transport operator has to accept responsibilities to his customers, their goods, the other road users and the community as a whole.

Regulation Too Late

A licensing system has usually come too late in the day to avoid painful measures to create order. Control has appeared even later and enforcement of regulations still later if at all. Again the reasons were that these measures demanded appreciable recurrent government expenditures without adding much to revenues. Meanwhile road transport was carried out at the cost of successions of failures, bankruptcies, tax evasion, clandestine traffic and the like. In addition the use of too heavy vehicles, often overloaded and run at excessive speeds, added considerably to the highway maintenance costs. This lack of co-ordination between road construction, road maintenance and road transport organisation has in many cases led to an unbalanced development programme and presented a major problem in financing and assistance.

Air transport had proved a boon in several cases where remote and sparsely populated development areas made the cost of rail or road access prohibitive. It is true that this form of transport, operated with the smallest types of aircraft, must usually be subsidised, but it is often possible to work the services as a subsidiary of one or more regional or even of international airlines.

Effect of Ownership

The ownership, public or private, is not itself a factor in possible efficiency of administration, operation and profitable expansion. This fact has been obscured in many instances where politics or bureaucracy or both have played a part in reorganisation following nationalisation. The creation of large and unwieldy railway and ports systems out



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LORRY—BUS—COACH

Objectors Fear Liverpool Move

IT was inevitable that if Ribble Motor Services, Limited, was allowed to link its stage carriage and excursion services under one roof, it would abstract from its competitors, the North Western area Traffic Commissioners were told at a Manchester inquiry on February 15. George Peasod, Limited, James Motor Garage, and Pearson's of Liverpool, were objecting to the Ribble application to transfer the originating points of excursion and express licences to the new bus station at Skelthorpe Street, Liverpool. Mr. James Booth, for Peasod, added that Ribble was seeking to move the nerve centre of its operations from Islington to the new station and still retain the old, putting it astride the centre of the city. Mr. F. D. Walker, for Ribble, said the new two-level station would be opened at Easter for express and excursions. The objections, he noted, were not directed to the use of the bus station, but to the retention of the other central points. As to this, 32,000 passengers used the Islington point in 1959, and the public could not be persuaded to change their habits immediately; a period of at least three years was needed to educate them to use the new station. The immediate loss of any of the present points would result in commercial gain to their competitors. Ribble had assured the police they would leave Islington as soon as possible to facilitate the city's proposed widening and one-way scheme. All the express services would operate from Skelthorpe Street, but unless the excursion points were retained there would be loss of goodwill. The application was adjourned.

County School Bus Figures

IN 10 years the number of buses hired each week by Lindsey (Lincs) County Council education authority has risen from 95 to 136, and the authority owns 27 buses compared with 10 in 1949. Today, 10,609 children are transported to and from school, and of these, 9,877 go by bus.

Off-Street Loading of Newspapers

THE Birmingham Post and Mail is proposing to build new works and offices at the corner of Steelhouse Lane and Weaman Street. It is intended to have a roadway inside the ground floor so that about 80 vans can be loaded away from the street. An article in MODERN TRANSPORT of March 24, 1956, described the company's difficulties at its present site in the narrow and congested Cannon Street.

Home Construction to Go On

GLASGOW CORPORATION decided on February 18 to continue building 50 bus bodies a year by direct labour—despite an allegation by Councillor S. J. Scott Adamson that the first 50 buses could have been built by a private contractor for £8,850 less than they had cost. Councillor Adamson wanted the corporation to stop building buses at Coplawhill depot and in the future at Larkfield garage. The batch of buses referred to, he said, had each cost £3,047 to build, and at the end of the project the last lot had each cost £2,542. In

all the 50 buses had cost £132,100, although they could have been built by a coach-building firm for £123,250. Councillor James Bennett, convener of the transport committee, said that the overall difference ultimately between building the buses themselves and having them built by an outside firm was only £1.

Fluorescent Lighting for Atlantean

FLUORESCENT lighting has been introduced by Potteries Motor Traction into one of its Leyland Atlantean lowbridge double-deckers to replace the existing incandescent lights and also for illumination of an advertisement panel on the offside



An A.E.C. Reliance with Willowbrook bodywork for the Grimsby—Cleethorpes Transport undertaking. Three similar vehicles, with fluid transmission, have been ordered by London Transport for experiments with two-door single-deckers

upper deck of the same vehicle. Twenty-eight of the existing interior incandescent lights have been replaced by 10 2-ft. 20-watt fluorescent tubes providing a warm white light. Under the previous arrangement the 28 bulbs had a total battery consumption of 14 amps, whereas the 10 fluorescent tubes consume 10.5 amps.

Provincial Bus Workers' Wage Claims

NO progress was reported by the National Council for the Omnibus Industry following its meetings on February 17 and 18 when the employers' side replied to claims presented last December, and other claims which the employers' side previously rejected but which the trade union side had said still stood. The employers' representatives, having regard to the great magnitude of the cost of the

claims taken together, offered to refer to a committee of the Council consideration of three of the claims, namely, those relating to a reduced working week, one-man operation and skilled maintenance workers, but rejected the other four: for a pension scheme, a sick-pay scheme, the abolition of standing passengers in double-deck buses with more than 56 seats and a claim for increased wages. The trade union side was not prepared to agree to this limited reference and indicated that the matter would require further serious consideration on its part.

Monopoly Urged in Edinburgh

EFFORTS may be exerted by some circles in Edinburgh, including the city Socialist group, to get the city transport department a monopoly of services within the city boundary. This would mean restrictions on the Scottish Omnibuses group services into the city. At the moment these companies are permitted to pick up and drop passengers within the city boundary, but with a protective

Commissioners in Cardiff last week when they adjourned "coming into line" applications by Red and White, Rhondda Transport, and Neath and Cardiff Luxury Coaches. Counsel for the local authority objectors said that, without prejudice to future applications or the terms of the appeal, they were prepared to give an undertaking that in the event of an appeal now pending being disallowed, they would not object to the "coming into line" applications. For the applicants, Mr. F. A. Stockdale said that this undertaking was not acceptable to the companies because it would mean either that Western Welsh and South Wales Transport (the other companies concerned) financed the co-ordination of fares during the interval until the appeal or would oblige them to seriously inconvenience the public by implementing the grants already made to them.

Road to the Rescue of Coal Mines

AN agreement made last year between the area electricity boards and British Railways providing that small coal for generating stations previously hauled by road should be transferred to rail has foundered, temporarily at least, due to an acute shortage of railway staff and rolling stock in the Midlands. In consequence of this, and to ease the stocking position at collieries, the National Coal Board has had to arrange to transfer up to 50,000 tons a week to road, half of it from East Midlands and half from West Midlands pits. This week as a start about 10,000 tons was to be moved from each division of the N.C.B. It is stated that at some collieries coal has had to be stockpiled to await the availability of rail wagons. On the other hand, the North Eastern Region says that during the weeks ended February 6 and 13 the tonnages of railborne originating coal traffic were 968,000 and 952,000 respectively, figures which have been exceeded only twice during the past seven years, in the pre-Christmas peak weeks of 1953 and 1956.

Ruling on Evidence of Objectors

PARTICULARS of existing facilities entered by objectors to licence applications do not limit the objectors in the evidence they can give in court, says the Transport Tribunal in a judgment given this week in *B.T.C. v. Bakers Transport (Southampton), Limited*. This was a variation application. Counsel for Bakers submitted before the Tribunal that the objector, actually B.R.S., had limited itself on its form of objection to providing facilities for "machinery and plant," etc., but the licensing authority had permitted B.R.S. to give evidence as to facilities not falling within this description; such evidence must be neglected, he suggested. The Tribunal says procedural points of this character ought to be raised in the first instance before the licensing authority; the latter should not treat objections as if they were formal pleadings in a court of law; the words quoted above do not purport to be exhaustive particulars of the objector's facilities. If an objector were limited in his evidence to the activities described in his objection his rights would in many cases be taken away inasmuch it is often impossible to discern from published applications what the applicant seeks to do.

Bus and Coach Developments

O. J. Edwards, Maenclochog, applies for the licences of T. C. Herbert and Son, Limited. Maidstone and District Motor Services, Limited, proposes to divert its Gravesend—Brighton express service (E13), which does not pick up after Sevenoaks, to operate via Ide Hill and Edenbridge instead of via Tonbridge and Tunbridge Wells.

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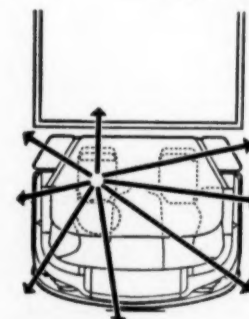


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2—Plea for More Detailed Management*

WHETHER he receives a letter, turns on water or electric light, makes a telephone call, takes his car on to the highway, or travels by his local bus or train, the countryman is constantly being subsidised in one way or another by the town dweller. Some organisations can invisibly transfer funds from town to country easily enough. The Post Office has a monopoly for most of its services, and nobody questions the wisdom of charging the same postage for letters throughout the country. But transport is highly competitive, the various public transport services competing not only against each other but increasingly against private motor transport.

Reluctance to Relinquish

The research undertaken in the Dartington Hall survey of rural transport has strengthened the writer's conviction that the policy of leaving transport to find its own salvation, operators taking the rough with the smooth, has already failed or is failing in some areas, and that the surprising thing is that there has not been a much greater abandonment of rural services. He suggests that there is in fact much greater reluctance to close branch lines and rural bus services than the general public realises—and certainly greater reluctance than the purely selfish interests of the transport operators can justify. Many of the small bus operators interviewed displayed a keen, sometimes almost fanatical, sense of public duty, some journeys or whole routes being maintained at a considerable loss to avoid causing hardship—often the loss of jobs—to the few passengers. There is also the fear that if alienated by the withdrawal of one bus, passengers may boycott others and give plum private contracts to another firm.

Even sections of British Railways seem to behave

answerable. The sums involved are reasonably small, and in some cases poor transport services are resulting in expenditure—often subsidised expenditure—on other country amenities being wasted. Moreover, there are examples of positive cash savings which would result from financial assistance to rural stage bus services. In 1957 it was stated that in the Mid-Northumberland survey area, where

in some cases modernisation—particularly of signalling—could greatly cut branch line losses. One of the main arguments against subsidising the railways has always been that even a large sum might quickly be absorbed in general funds with little to show for it. It is therefore recommended that any subsidy should not become part of general funds but should be distributed in a number of grants



Introduction by the G.W.R. of a Helston—The Lizard bus service on August 17, 1903, using Milnes-Daimler vehicles offset strong demands for construction of an indubitably unremunerative branch line under a Light Railway Order and began a long series of road service and railway co-ordination schemes

the writer followed up the research already undertaken by the Northumberland Rural Community Council, about £900 was spent annually by the County Education Committee on fares for children travelling by service bus. Had all these children to be taken by private contract buses, the cost would be £5,000.

It is suggested that a part of the sum now paid

for limited, specified purposes, enabling the retention of services which the British Transport Commission cannot afford when expected to pay its way.

Like the rural bus subsidies, these branch line grants might be paid by an extended licensing authority concerning itself to some extent with railways as well as road services and working in conjunction with the Transport Users' Consultative



An example of road and rail co-ordination which has endured some 30 years is the Cheltenham—Oxford road service begun by the G.W.R. and worked at one time by this Wycombe-bodied Gilford 166OT

vehicle standard is lower than that of the big companies; there would, indeed, seem to be a case for a general lowering in vehicle standard on "back of beyond" routes, although old non-standard vehicles do not suit big fleets.

Improvisation

In all ways improvisation is the small man's prerogative. He and his family may devote long hours to the service. He can make unorthodox arrangements such as the free carriage of a commuter in exchange for fare collection on the only daily bus needing a conductor. He may combine the bus service with other jobs, including running a general garage, or even such a task as cider-pressing. Recently there have been a few examples of individual operators taking over a route no longer considered economic by a big company, and it appears that the process might well be extended, the small man often being able to make a reasonable profit where the large group fails.

However, it is not suggested that big companies should merely drop their very worst routes. In British rural terrain the ideal arrangement would often be for the big company to keep the main valley route, often linking towns as well as villages, and for small operators to take over "zones" on either side. Within these zones the big company might at present sustain a total loss, but possibly pressure from some statutory or advisory body would be required to persuade it to give a small operator the best (best by comparison only) as well as the worst of the group of routes concerned.

Other Conclusions

Here are some of the other conclusions reached in this survey of country transport services. In many areas timetables need more frequent examination, a more definite policy often being needed; if it is decided to cater only for certain specialist



as though these are still the days of railway monopoly, involving certain duties as well as privileges. Had the policy of retaining only what is economic been applied more rigorously, the system would have shrunk far more quickly and there would be no subsidising of buses which have replaced trains in certain districts. Another reason suggested for the relative slowness in curtailing railway branch lines and rural bus services is that at heart transport operators are optimistic. There is a feeling that in the end justice will prevail. The appointment of the Government Committee on Rural Bus Services has heightened hopes of the

by public service vehicles in fuel tax should be made available to an extended licensing authority, empowered to pay up to a prescribed amount per mile for rural services which run at a loss but are in the authority's opinion worth maintaining in the interests of the community as a whole. Even if fuel tax were abolished (by the granting of rebate on mileage operated) on the bus industry as a whole, it is suggested that some of the total sum should be retained to be applied at a greater than average rate per mile to a limited number of rural services. If this happened, town operators would be subsidising country services, but it would happen only if



The extent of rural passenger transport at the peak of the postwar demand is shown by this map of routes of two operators linking remote hill country in central Wales with the resort, distributing and university town of Aberystwyth; vehicles in the Lloyd Jones fleet at that time included a Sentinel, a T.S.M. and (right) a wartime Bedford OWB

Committees. Between them, it is suggested, these committees and the extended licensing authority should more actively examine services to enable them to make proposals both for their improvement and where possible for the reduction of their operating costs. Some licensing control over private-hire and contract buses, including school buses, is also favoured. By keeping rigidly to the tendering system, in some counties education authorities have—often for the sake of paltry sums—given school contracts to new operators in districts where there is scarcely enough traffic to justify a single operator and so have demolished the last bulwark of some money-losing stage carriage service.

Role of Planning

It is also suggested that an extended licensing authority might present the transport point of view to the planning authority where appropriate in

classes of traffic, care should be taken to provide journeys at the right time for those traffics and no more. Some of the heaviest losses seemed to be made on routes where the timetable does not provide a frequent service yet gives more buses than the minimum required for most people's routine purposes. It also seemed that on some routes provided with an interval service of a bus an hour, the public might soon have to become used to consulting a timetable. As a general rule on country routes, an interval service is perhaps now justified only where the peak demand is so great that extra vehicles have to be run to accommodate it. If the 5.45 p.m. does not need a duplicate, almost certainly the 7.45 and 8.45 p.m. are not both worthwhile. Peak demands are acute, and increasingly so, and the case for 10- to 20-seater buses even for small operators is not attractive: if a route does not occasionally produce 30 passengers, it almost



A substantial railway replacement programme was carried out in Ireland by the then Great Northern Railway Board in October, 1957, and the views on the left and right show a lorry and buses in Carrickmacross and at Dundalk Station; centre, C.I.E. and Jackson Transport buses co-ordinate at Longford Station with the afternoon trains to and from Dublin

simplest of all palliatives for bus operators, the abolition of fuel tax, though in fact this might not prove such a complete solution as is sometimes suggested. Despite the Government's outspokenness, many railwaymen—if few railway officers—still believe that sooner or later the desirability of maintaining the system much as it is will be recognised by the granting of some kind of subsidy.

Need for Help

Without any form of financial help the decline in rural transport services is likely to be accentuated. Indeed, the smaller bus operators in particular have delayed taking action pending the acceptance or rejection by the Government of the Jack Committee's report, and if no financial help is forthcoming it is reasonable to assume that a backlog of closures will be dealt with at the end of this year. Despite the fine summer of 1959, the fall in traffic on many rural routes was not halted.

In the booklet *Rural Transport: A Report*, to be published next month and submitted as evidence to the Jack Committee, the writer suggests that the case for financial assistance is un-

* First portion appeared February 20. Based on a Dartington Hall study.

the town operators themselves gained some tax rebate.

Roughly speaking, fuel tax equals 3d. a mile, and all operators might, for example, receive a 2d. or slightly higher rebate, the remaining 1d. or less going to the rural pool. If fuel tax were not abolished as a whole for public service vehicles, the urban operators would of course lose nothing, the Government merely receiving rather less in tax. It is felt that were there to be a simple abolition of fuel tax all round, there would be little inducement to operators to maintain rural as against urban services, and the position might quickly return to being as serious as it is today. In fact many rural routes now make a greater loss than merely what they pay in fuel tax.

Railway Grants

Extensive interviewing revealed so strong a public bias toward railways, where they exist, that at least as an interim measure it is suggested that a subsidy totalling not more than £5 million annually should be applied to cover the loss on a number of individual lines. This is recommended partly because, quite rightly, the modernisation drive is being concentrated on main lines, though

some rural areas. At present there is no liaison between the building of public halls, schools, council houses, sewerage systems and road works, and some villages which should have expanded better to support a bus service have failed to do so. Rural experts have for many years advocated the concentration of certain services and amenities on healthy villages well placed in relation to a group of smaller villages and hamlets, and though such a policy is easier to suggest in theory than to carry out in practice, it is recommended that planning authorities in rural areas should now give some kind of guidance every priority.

Another function of an extended licensing authority might be to encourage the sale of some routes by the larger bus companies to small operators. Mid-Northumberland is one of the few parts of Britain still served mainly by a number of small operators, and the examination of the records of 11 of them showed that their operating costs were considerably below those of the larger bus companies. Several operators run at well below 1s. 6d. a mile and the average cost would appear to be at least 9d. a mile less than what it would cost a big company to operate over similar territory. The small operator knows his territory intimately. His

certainly warrants no service at all. Operators who have experimented with smaller vehicles are mainly disappointed.

One-man buses have met considerable opposition in some rural areas, but clearly this will have to be overcome, the dislike often being merely distrust of any change. In some cases, however, fare collection could be simplified, to the benefit of time-keeping, if weekly tickets or books of tickets were reintroduced at a slight discount. More commuter routes could be turned over to one-man operation on five days a week were a conductor provided on Mondays to sell these weekly tickets.

Organisation

Most present timetable changes stem from public complaint or the need for economy, and the appointment of a "routemaster" to supervise and be in close touch with a number of country routes might enable large companies to meet public demands more economically. The same argument applies to branch-line railways. Though a branch line is an entity, there is often no official between station-masters and head office staff concerned with various aspects of the whole system who can represent its

(Continued on page 14)

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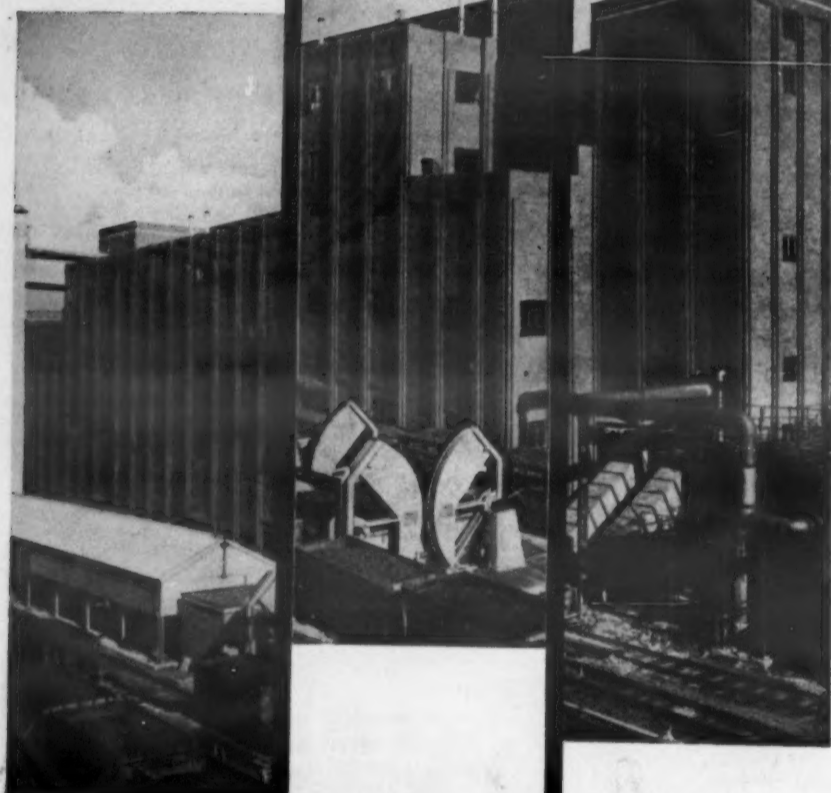
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Commercial Officer, London Midland Region, Euston Station, London NW1 (Euston 1234)
Commercial Officer, North Eastern Region, Headquarters Offices, York (York 53022)
Chief Commercial Manager, Scottish Region, 87 Union Street, Glasgow CI (Douglas 2900)
Commercial Officer, Southern Region, Waterloo Station, London SE1 (Waterloo 5151)
Commercial Officer, Western Region, Paddington Station, London W2 (Paddington 7000)

MANCHESTER QUAY DELIVERY BUREAU

Success of Preadvice Scheme

IN April, 1957, the Manchester Ship Canal Company set up a quay delivery bureau to enable importers, agents and haulage contractors to give advance notice of their intention to collect traffic from the Manchester Docks. The main objects of the scheme were to help the M.S.C. have the men and mechanical equipment available in the right places at the right time. The bureau became established as an integral part of the docks organisation. With a view to extending its functions the company in October, 1958, sought the advice of representatives of the road haulage industry and a small committee was formed comprising the area secretary of the Road Haulage Association in Manchester, the district manager of British Road Services and representatives of the Ship Canal Company. Following further consultation with the Manchester Chamber of Commerce, the Institute of Shipping and Forwarding Agents (Manchester branch), the Traders Road Transport Association and the Manchester Steamship Owners Association, it was decided to introduce a scheme under which some preference would be given to preadvised vehicles arriving between specified hours during the morning and afternoon.

Priority for Preadvised Vehicles

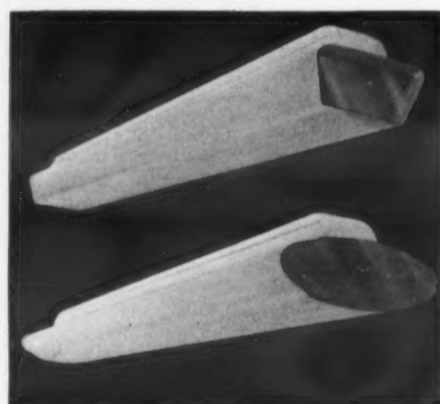
The revised scheme came into operation on January 1, 1959, and importers, forwarding agents and haulage contractors are invited to notify their requirements for ex-quay delivery during the afternoon before the intended date of collection, at the same time advising whether their vehicle(s) will arrive between 8 and 10 a.m. and 1 and 2 p.m. Vehicles advised for arrival within one or the other of these periods and duly showing up on time at the appropriate delivery points receive preferential attention over any unadvised vehicles already in attendance at the berths.

The committee referred to held a meeting last month to review the working of this scheme and all concerned expressed themselves as highly satisfied with the result of the first year's operation. Excluding deliveries from berths operating short-sea trades, 65,754 road vehicles took delivery of traffic from the Ship Canal quays and sheds and of these 52,045 vehicles, or 79 per cent, were preadvised under this scheme. This is a remarkably satisfactory and progressive step towards the more economical use of road transport with consequential benefits to all concerned, minimising delays to road transport and at the same time assisting towards a more systematic disposition of dock labour and gear.

COMMERCIAL LIGHTING

New Benjamin Electric Range

FOR many years a leading manufacturer of industrial lighting fittings, the Benjamin Electric, Limited, has just introduced a range of commercial fluorescent fittings designed for showrooms, offices and so on. Named Litmaster, the new range is built around two basic units, types A and B shown in the illustration, features of which are very pleasing appearance and easy installation and maintenance. Variations to suit individual preferences are made possible by the introduction of colour and shape to the end features of the units, while the ribbed acrylic plastics diffusers are produced in various distinctive styles. Diffusers are designed to slip instantly into position in the channel and are as easily disengaged after removal of a captive nut and one end plate, when the diffuser will hinge from one side of the channel giving ready access for cleaning or lamp changing. End plates are available in a variety of types, for example stepped or with holes to reduce end shadow, and in a range of four standard colours.



Extremely attractive appearance is combined with functional design in the new Benjamin commercial lighting fittings. Type A is shown above and Type B below

Based on Benjamin Taskmaster one-piece channel, the Litmaster range incorporates all the details of control gear, fixing, lampholders and so on that apply to the former, and existing Taskmaster fittings can be converted to Litmaster with a new diffuser kit marketed by the company. Standard arrangement is to have an interior terminal block, giving clean exterior lines, but a plug and socket fitted on the side of the channel is available at no extra cost. The new range embraces fittings to take single or twin 4-ft. 40-watt lamps or single or twin 5-ft. 80-watt lamps for ceiling or pendant fitting, of switch-start or quick-start type, with weights ranging from 18 to 27½ lb.

The Leipzig Spring Fair, to be held this year from February 28 to March 8, has attracted increased demands for space from manufacturers in many countries, well over a million sq. ft. of stand space having been booked.

At the recent Furniture Exhibition at Earls Court a sample suite of the liner *Oriana*, at present being built by Vickers-Armstrongs, Limited, large, deep windows gave an added air of spaciousness. The windows are watertight light-alloy-framed units of the Windsor type supplied by Beckett, Laycock and Watkinson, Limited. A small hinged panel at the top of each window may be opened if required by using a special key.

SOUND LEVEL METER BY DAWE

Instrument for Transport Industry

DESIGNED with the transport industry particularly in mind, a new sound level meter introduced by Dawe Instruments, Limited, 99 Uxbridge Road, London, W.5, is claimed to be the first commercially available fully transistorised unit of the type in the world. The use of transistors powered by built-in dry batteries has resulted in a self-contained instrument of 8½ by 5½ by 3½ in. overall size and a weight of less than 4 lb. which



Dawe 1400E battery-operated sound level meter with a range from 24 to 140 dB

can be operated readily with one hand. Designated Type 1400E, the unit meets the proposed International Electrotechnical Commission (I.E.C.) specification for sound level meters.

The Dawe instrument incorporates a variable attenuator, a high-gain amplifier, a circuit arrangement said to provide a frequency response similar to that of the human ear and a microphone, which is folded away into a recess in the case when not in use and also acts as the on-off switch. The scale provides direct readings of sound level from 24 to 140 decibels, thus covering the requirements of all types of industrial or transport applications, except possibly measurements in the near vicinity of jet engines.

Among the advantages of using all transistors are that the meter is ready for immediate use when switched on, no warming-up period being necessary, and that the battery load is light. One set of batteries is said to provide an operating life of 60 hr., though a mains-operated power unit can be supplied on request.

WORK STUDY

Value in Field of Transport

THE transport industry has been cautious in accepting the techniques of work study but after British Railways in the Southern and Western regions pioneered the work several years ago, other sections of the industry have followed its lead. These views were expressed by Mr. William Reid of Associated Industrial Consultants, Limited, at a recent meeting of the Scottish section of the Institute of Transport. Although the impact of work study at present is not great there has been considerable development in its use during recent years. Glasgow and Edinburgh Corporations have used work study in connection with vehicle cleaning, vehicle maintenance, body repairs, layout of garages and workshops, traffic scheduling and office organisation.

Mr. Reid said that the objectives of the transport industry must be to improve services and make economies where they are justified, producing more work from the same effort, and not to produce the same amount of work with reduced effort. Work study can help in a variety of ways, for example, in determining the most economical method of driving in, fuelling and parking and the proper size of a vehicle cleaning team; and the running of vehicles over different routes and at times of different traffic densities, enabling management to ascertain the optimum schedule speeds consistent with safety.

The speaker emphasised the important part trade unions can play and the fact that railway and other transport unions have shown much foresight in their support of the movement. It was essential, he said, that the work study man had the qualities of leadership and initiative and was properly trained, otherwise trouble would result due to human reactions. Work study schools had been set up by the British Transport Commission and British Railways in Watford, Glasgow, London and Ashridge. These schools were started in the regions after work study had been developed under the guidance of A.I.C., the oldest and largest established company of management consultants operating in this country.

B.T.C. TRAFFIC RECEIPTS: PERIOD NO. 1—1960

	Four weeks to January 31, 1960		
	1960 (£ thousands)	1959	+ or -
PASSENGERS			
British Railways	9,090	8,419	+ 671
London Transport			
Road passenger services	4,191	3,977	+ 214
Railways	1,995	1,863	+ 132
Provincial and Scottish Buses	4,075	3,991	+ 84
Ships	244	259	- 15
Total Passengers	19,595	18,509	+ 1,086
FREIGHT, PARCELS AND MAILS			
British Railways			
*Merchandise and livestock	7,768	7,134	+ 634
*Minerals	3,928	3,485	+ 443
Coal and coke	9,688	9,662	+ 26
*Parcels, etc., by coaching train	3,912	3,790	+ 122
*Total Freight British Railways	25,296	24,071	+ 225
Others	3,886	3,798	+ 88
Total Freight, Parcels and Mails	29,182	27,869	+ 1,313
Aggregate	48,777	46,378	+ 2,399

* Includes receipts from collection and delivery, etc.

LETTERS TO THE EDITOR

The Victoria Line

The Editor is always glad to receive letters from readers on subjects germane to the transport industry, but these should be written as concisely as possible. The opinions expressed therein must not, however, be regarded as having editorial endorsement. Where correspondents desire to use a nom-de-plume it is essential that the Editor should be informed of the name and full address of the writer as indication of good faith.

SIR,—One would suggest that in view of the publicity recently in evidence regarding the proposed construction of the Victoria Line (which, it is claimed, would have the effect of considerably alleviating the traffic situation in the Metropolis) the scheme should be given a much more thorough scrutiny than generally appears to have been done to see if it would in fact justify the expenditure of some £55 million upon it. The writer makes no apology for drawing attention to several features in connection with the scheme, based on a study of the subject extending over several years, which would appear to have eluded general notice.

At the outset it may be recalled that up to some three years ago the line was generally referred to as "Route C." This was the name given to the route proposed by the London Plan Working Party (reporting to the then Minister of Transport in 1949) extending from Walthamstow across the West End of London via Victoria to East Croydon by way of Vauxhall, Streatham and Norwood. Route C as understood by the London Transport Executive, however, would proceed westwards from Victoria to link up with the Metropolitan District line near Waltham Green (Fulham Broadway), for Wimbledon. This change of intention appears to have received little publicity (if any) although it alters the whole concept of the scheme as originally put forward. Apart from this the 1949 Working Party's route was intended to be essentially an express one whereas the L.T.E. line is designed primarily as an interchange—and thus inevitably a slow—one.

The segment to the west of Victoria (which may be referred to as "Phase I") admittedly does not form part of the 11-mile stretch whose construction is at present being canvassed; nevertheless, the northern approach thither must inevitably be conditioned by the direction its further extension is likely to take. Such an extension to the surface, in common with the greater part of the existing tube lines, may be regarded as inevitable if the line is to work at maximum capacity (40 trains per hour, as contrasted with the 30 as initially possible with Phase I). Even an extension to Fulham Broadway, however, might be expected to bring the final cost of the line to something near £70 million.

Duplication

Apart from its final emergence near Wood Street, Walthamstow, it is proposed to construct the whole line at deep tube level—a most expensive form of railway construction, apart from the high maintenance costs involved. Yet to the north of Finsbury Park the proposed line would follow existing surface lines closely—practically rail for rail in fact for the 3½ miles from Seven Sisters Road to Wood Street, Walthamstow. Virtually to duplicate existing track (which cannot be considered by any means overworked) at deep tube level surely indicates a complete lack of appreciation of existing resources. Precedents for constructing tubes under existing surface track could of course be quoted—as for instance the Piccadilly Line between Kings Cross and Finsbury Park. In this case, however, special considerations exist; the existing lines could not accommodate any additional traffic and are predominantly in tunnel anyway. But to the north of Finsbury Park one is well out of the Central Area, adequate surfacing facilities are available and surface linkages of track would offer no problem.

Viewed from another aspect, the section of the new line intended to traverse the West End and thence from Kings Cross to Finsbury Park would also in effect duplicate existing facilities—in this case the Piccadilly Line, which at present is considered overcrowded with a loading of 23,000 passengers per hour. Yet with 40 trains an hour each carrying, say, 1,000 persons it should not be unduly difficult effectively to double that capacity. One solution that suggests itself here is the provision of double-sided platforms which would enable simultaneous boarding and alighting to take place from opposite sides of cars, thereby automatically halving "waiting time" at stations. The double-sided platform has of course been used previously at surface stations—but not, to the writer's knowledge, at tube level, where, taking into account such aids as variable speed escalator staircases, its innovation might be expected to give a much smoother and better control of passenger flow. The cost of reconstructing the Piccadilly Line stations in the Central Area on the double-sided platform principle might not be expected to be more than (say) £3,500,000.

The Victoria Problem

A reconstruction of the Piccadilly Line as it stands would admittedly not resolve the morning and evening surge in and out of Victoria and here a long-term solution would be called for. A main-line railway terminus in the heart of London's West End may be considered an anachronism anyway; a terminal station is in any case by its very nature a "locking point"—a situation which would be aggravated in the long run by the proposed juxtaposition of a terminal tube line. Any long-term plan would aim at resolving this by the fusion of the suburban lines of the Southern Region system

with those operated by the L.T.E. to form an enlarged London Transport network.

Further criticism may be levelled against the proposed line on a number of other issues—such as for instance its unnatural termination at Wood Street, Walthamstow, instead of its projection to Chingford over the Eastern Region track immediately adjoining. Perhaps enough has been said, however, to indicate that the whole concept of the Victoria Line appears to be inherently faulty and no amount of facile publicity or technical gloss designed to reconcile the public to it can obscure this. As it is, the only official statement regarding it which the present correspondent endorses is that the new line would almost certainly operate at a loss of some £2 to £3 millions per annum.—Yours faithfully,

JOHN R. BATES.

15 Landswood Road,
Oldbury, Birmingham.

Our correspondent is in error in supposing that the Victoria Line has been insufficiently thought about before putting it forward. In fact, it is probable that no tube railway scheme has been so closely considered by two committees composed of main-line railway and London Transport officers and then in 1955 by the Parliamentary procedure when the route was authorised. The curtailment at the north end is a reflection of the provision of electric traction between Chingford, Walthamstow and Liverpool Street on the Eastern Region route and the absence of definitive plans south of Victoria is no doubt conditioned by matters of cost, and either could be chosen without difficulty. Use of the Tottenham and Hampstead and Tottenham and Forest Gate lines by tube trains as well as their existing traffic would be highly unsatisfactory; the stations also just miss being at street traffic centres and so would in part fail to fulfil the role assigned to them. There were some obvious cases of this shortcoming in the 1955 programme of tube train extension over surface lines. Editor, MODERN TRANSPORT.]

Plea for Cavan and Leitrim Stock

SIR,—The last 3-ft. gauge locomotive and passenger coach of the Cavan and Leitrim railway are likely to be broken up next month unless a buyer is forthcoming. I understand that these vehicles had been reserved for the Belfast Museum but are not now able to be accepted by that body.

Britain's electric tramway enthusiasts, to their credit, have just rescued an early electric car from Ireland for museum purposes; cannot our far more numerous steam narrow-gauge enthusiasts do the same for these Cavan and Leitrim survivors? It would be sad if the only Irish narrow-gauge steam stock to survive is that which has been shipped to America.—Yours faithfully,

T. A. YEARSLEY.

14 Castello Avenue,
Putney, S.W.15.

Using Great Central Facilities

SIR,—The proposal for a partial integration of the Midland and Great Central main lines for the Leicester to Chesterfield sections (MODERN TRANSPORT, January 30) surely merits serious consideration. The civil engineering works would be (compared to the railway modernisation plan) relatively minor, but their value would be immense. The simplification of services with Leicester and Nottingham on one route would be of great operational value and also the new service would be easily understood by the travelling public.

These changes would increase the value of through trains via Banbury to Oxford and beyond. The present changes by British Railways seem to be based on the two routes being separate; apparently with no definite plan for uniting the best features of the two routes and so being able to make fullest use of their physical assets.—Yours faithfully,

G. STREETS.

25 Lowther Grove,
Lidgett, Garforth,
Near Leeds.

The Problem of Rural Transport

SIR,—The results given in the article by David St. John Thomas in your issue of February 20 cannot give heart to the branch-line enthusiasts who would wish the Western Region to restore the passenger services to the Moretonhampstead branch and operate it at a profit, but there are several ideas which might, if tried, make it possible. Firstly, trains should be run at hourly intervals and connections be made at Moretonhampstead with Route 16 of Devon General to and from Chagford and Okehampton and also Route 79 from North Bovey should be extended to Moretonhampstead Station especially as it serves the B.T.C. Manor House Hotel. In the summer timetable all trains should be extended to Goodrington to cater for the tourist traffic to and from the Torbay area.

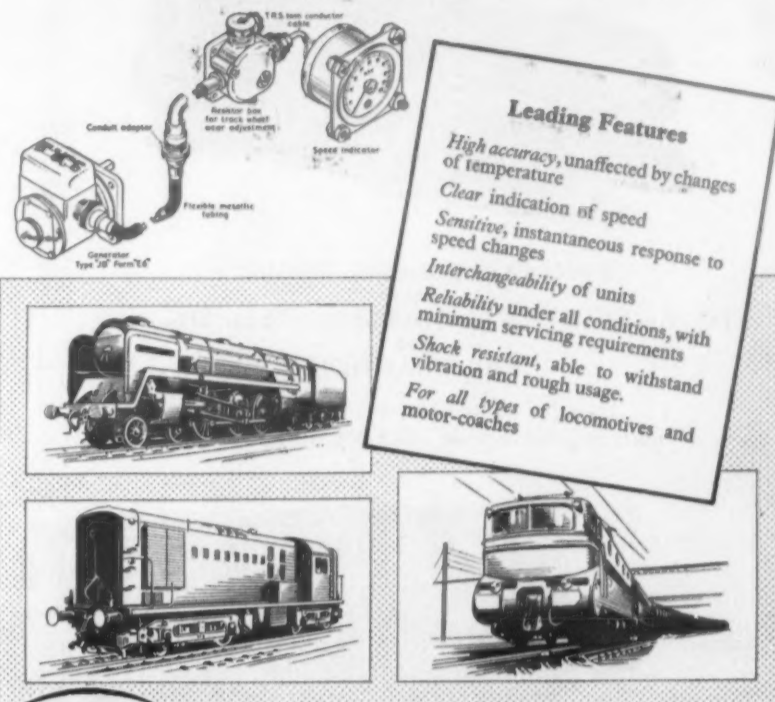
Two diesel railcar sets of the two-coach type, which are capable of taking an extra coach in the middle, or a through vehicle should be used as well as a diesel locomotive with two or three coaches used as a push-and-pull unit. The locomotive would be used to haul the freight from Newton Abbot to Moretonhampstead and then work passenger services, finishing the day by returning to Newton Abbot with the freight. With this type of service it should be possible to work the line above Bovey Tracey on the one-engine-in-steam system. Newton Abbot has a well-patronised racecourse which could be served by a halt where the branch runs under the Newton Abbot—Exeter road. The distance from the proposed halt to the racecourse entrance would be about 150 yd. and passengers would be saved the change of buses at Newton Abbot, not to mention the bus fare out of the town.—Yours faithfully,

H. J. COMPTON.

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St. Johns, Woking, Surrey.

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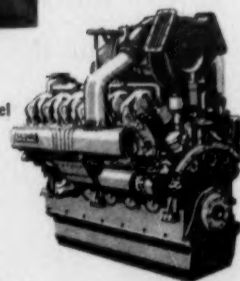
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Work on the electrification of the London, Tilbury and Southend line of the Eastern Region is being pushed ahead and the picture shows the erection of overhead structures at Pitsea during the January snow. Single-line working is in operation on the down track

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NEWS FROM ALL QUARTERS

Manpower on Soviet Railways

A study of recent Soviet railway statistics suggests that the manpower problem there is scarcely that of British Railways; some 28 railway staff are found employment per kilometre of track as compared with only 17 in, for example, West Germany.

Irish Railway Wound Up

The affairs of the Strabane and Letterkenny Railway Company were officially wound up at an extraordinary general meeting of the proprietors of the company held in Derry. The 20-mile section of railway between Strabane and Letterkenny was closed on December 31, 1959.

Iraqi Dream About to be Realised

There was a formal inauguration last week of work on a standard-gauge railway between Baghdad and Basra, a project undertaken with technical aid from the U.S.S.R. The work now being done involves conversion of the metre-gauge line built by the British for strategic purposes during the 1914-18 war.

Bexhill Branch Not to Close

The Southern Region branch line between Bexhill West and Crowhurst is not to be closed to passengers despite its losses. But the passenger services "may have to be run in new ways." The line was modernised with a regular service of diesel-electric trains two years ago, but in order to help cut down the continued loss Sunday services had to be withdrawn for this winter.

Cross-Country Chemical Pipeline

The Esso Petroleum Co., Limited, has concluded an agreement with Imperial Chemical Industries for the supply of ethylene direct from the Esso refinery at Fawley to the new Severnside works of I.C.I. in south Gloucestershire by means of a pipeline. It would be the first of its kind in Great Britain to link physically an oil refinery and a large chemical plant, more than 70 miles apart, for the direct supply of intermediate raw materials. To meet this increasing demand and for other additional feedstocks, the £10 million chemicals plant at the Fawley refinery will be expanded at an additional capital investment of £5½ million.

Change in Issue of Road Vehicle Licences

From October 1, the Minister of Transport proposes, it will be possible to take out a road vehicle licence (other than a trade licence) for any period of either four, eight or 12 months, running from the beginning of the month in which the licence first has effect. This change will, however, not apply to licences where the annual rate of duty is £3 or less; in those cases the minimum period will be 12 months. The change is being made to remove the congestion at taxation and post offices caused by fixed expiry dates. The rate for a four- or eight-month licence will be proportional to the annual rate, with a surcharge of 10 and 5 per cent respectively. On surrender of a licence of whatever duration the repayment rate will be one-twelfth of the annual rate for each complete month remaining unexpired. These proposals are in line with those made by a Manchester Corporation O. and M. unit in October, 1956.

Black Country Improvements

Dudley Corporation is to spend nearly £1 million during the next seven years on road improvements. The most notable proposal is that work should begin in 1964 on the northern half of an inner ring road. This will start from the Stourbridge Road at Queen's Cross and end at Castle Hill. A badly needed direct road is proposed between Brierley Hill and Blackheath.

Bigger Reductions for Mid-Week B.R. Travel

Discount on fares given to British Railways passengers who can travel in mid-week during the holiday season (May to October) is to be increased this year from 4s. to 5s. in the £ on the cost of ordinary second-class return tickets for holidays. New "West of England" and "Freedom of Wales" rail rover tickets are to be issued in addition to the all-line and regional rail rover tickets which were available last year.

Zurich Underground Doubts

A study undertaken of the cost of an underground railway system for the Swiss city of Zürich shows that a sum approaching £52 million would be needed for the suggested 12.35 miles, consisting of two lines from Engle Railway Station to Kloten Airport, and from Tiefenbrunnen to Farbhof. These costs are split up into £31 million building costs, £18½ million for all other initial costs and £2½ million for rolling stock. It has been estimated that the underground system would run at an annual deficit of some £1½ million. Due to this it seems unlikely that a private interest could be found for the project.

Glasgow Inner Ring Road

Approval in principle has been given by Glasgow Corporation to a ring road serving the centre of the city and having a total length of about 4½ miles. Construction is envisaged during the next decade. The tentative route for the new highway approximates to the following: Cowcaddens Street, thence between Parliamentary Road and Cathedral Street to Castle Street, High Street, Glasgow Cross, Albert Bridge, Norfolk Street, Wallace Street, thence via the upper deck of the proposed two-level bridge over the Clyde to Anderston Cross, North Street, Charing Cross, St. Georges Road and Shamrock Street to Cowcaddens. Non-conflicting junctions are proposed at major intersections.

Ticket Collection at New Street

Reference was made some months ago to delays to inward bound diesel trains on the Lichfield-Birmingham line because of the old-established practice of collecting tickets at Vauxhall. During the morning peak many travellers have neglected to buy tickets at the suburban stations and, to minimise the delay in collecting unpaid fares at Vauxhall, a Bell Punch Ultimate machine with pre-printed tickets has been in use. It is now intended to try the experiment of erecting movable barriers at the foot of the stairs at New Street station and collecting tickets and fares there in the ordinary way. The difficulties caused by the public right of way through the station will be removed in a few years' time when the station is rebuilt on three levels.



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COMMERCIAL AVIATION

Boeing 707 Modifications

NIGHT LIGHTS AT BATTERSEA

DESIGN improvements developed over the past two years for advanced versions of the Boeing 707 and 720 series of jet air liners are to be incorporated in all 707s now in service as well as those currently in production it has been announced by the Boeing Airplane Company. The design improvements have undergone comprehensive flight tests in existing 707s. They included a 35-in. fin tip extension, a fully boosted rudder and a small ventral fin. These were developed primarily for new higher gross weight versions of the 707 now under study. Flight tests beginning last autumn proved that certain of the design improvements would also be beneficial to the earlier models of the series. Aircraft still in production will have the changes incorporated as soon as parts can be made available. Kits of parts will be furnished to present 707 operators to modify their present fleets as flight and normal maintenance schedules permit. Mr. J. O. Yeasting, vice-president and general manager, Boeing Transport Division, said: "These changes represent further refinements in the handling characteristics of the 707 and 720. Although all four versions of the 707 are now fully certificated as airworthy by the U.S. Federal Aviation Agency, we feel that these improvements will make the 707s and 720s even better aircraft from all standpoints." They would also further benefit continued growth and performance and gross weight capabilities as newer engines became available.

United to Buy 20 Caravelles

United Airlines announced recently that it would buy 20 Sud-Aviation Caravelles. They would be purchased directly from the French company, although the Douglas company was recently licensed to build the aircraft in the United States.

London to Bombay Nonstop

The first Rolls-Royce Conway-powered Boeing 707 of Air-India International arrived at Bombay on February 21 after flying 5,000 miles nonstop from London in 8 hr. 15 min. On board the air liner was a message of greeting from the Lord Mayor of London to the Lord Mayor of Bombay. In May Air-India begins its Boeing services between Bombay and New York via London. Total flying time will be 17 hr.

Air Interests of Pressed Steel

Some months ago, the Pressed Steel Co., Limited, announced that it had acquired a de Havilland Dove aircraft for executive travel between its factories at Cowley, Swindon, Paisley and Swansea. It was stated that the aircraft would be used as a means of economy in the time and travel of its executives. Since then, the company aircraft has been regularly operated from Kidlington Airport, Oxford—not far from the Cowley works, and it is now announced that Pressed Steel has taken over the aviation interests and operation of the Oxford airport at Kidlington. The company emphasises that this is in no way intended to impose any restrictions on other users of the airport, and that it is intended to continue with all aspects of flying at present in operation, including the maintenance and servicing of aircraft in accordance with the regulations as laid down by the Ministry of Transport and Air Registration Board. Pressed Steel, in fact, hopes that this extension of its interests will encourage increased use of the airport by private flyers and commercial operators.

Heliport Gets Night Flying Licence

The Westland London heliport in Battersea, which was opened for daylight operations on April 23, 1959, has been granted a licence for night flying following an inspection of the heliport's new lighting installation by Mr. C. M. Colbeck, southern divisional controller, Ministry of Aviation. Lighting equipment was supplied by the General Electric Co., Limited, to comply with recommendations put forward by the Ministry of Aviation in collaboration with the B.E.A. helicopter experimental unit and independent helicopter pilots. The cost of the installation was about £1,700. The lighting consists of medium-intensity elevated perimeter lights—to show pilots the boundaries of the landing platform—and floodlights mounted on towers to make the platform stand out against its surroundings, particularly the river which would otherwise appear bottomless at night. By giving texture to the concrete platform, the floodlights help pilots to judge their relative height on the final approach. Coming in from a height of between 500 and 1,000 ft. following the Thames—the limits specified for single-engined helicopters flying over London—pilots also receive assistance from an angle of approach indicator. This device gives a flashing signal divided into three horizontal coloured zones: red if the pilot is too low, amber if he is too high, and green when he is on the correct approach path—which at Battersea is angled 12 deg. above the horizontal.

British Airports in October

Air transport movements at United Kingdom aerodromes in October, 1959, numbered 28,079, an increase of 16 per cent compared with October in the previous year; the number of passengers handled increased by 21 per cent to 641,180. Freight picked up and set down amounted to 21,654.4 short tons, an increase of 56 per cent. Airports in the London area as a whole showed an increase of 8 per cent in air transport movements, and an increase of 21 per cent in the number of passengers handled. At London Airport there were 10,302 air transport movements, an increase of 9 per cent compared with October, 1958, and 364,000 passengers were handled, an increase of 24 per cent. Most airports showed increases in passenger traffic over October, 1958, and amongst these were Gatwick by 72 per cent to 20,563, Ferryfield by 35 per cent to 10,714, Belfast (Nutt's Corner) by 30 per cent to 27,658, Glasgow (Renfrew) by 29 per cent to 46,902 and Edinburgh (Turnhouse) by 28 per cent to 12,540. Other large increases in passenger traffic were at Blackpool (Squires Gate) by 212 per cent to 2,499, Newcastle (Woolington) by 131 per cent to 3,546, Leeds-Bradford (Yeadon) by 37 per cent to 1,647, Portsmouth by 29 per cent to 106, Cardiff (Rhoose) by 27 per cent to 2,767, Islay (Port Ellen) by 23 per cent to 907, Benbecula by 22 per cent to 1,392 and Aberdeen (Dyce) by 21 per cent to 3,821. There was a very large increase at Southampton (Eastleigh) but this was because traffic was greatly curtailed during October, 1958, owing to the waterlogged state of the airport: the traffic went to Bournemouth (Hurn) and this accounted mainly for a decrease there in October, 1959, of 66 per cent. Other decreases were at Blackbushe by 48 per cent to 9,846 and Stansted by 37 per cent to 1,347.

LONG SERVICE TO THE BUS INDUSTRY



S. Kennedy

Mr. STANLEY KENNEDY, M.Inst.T.

When, as already foreshadowed in MODERN TRANSPORT, Mr. Stanley Kennedy retires from the chairmanship of the Tilling Group Management Board on March 31, he will have had more than 46 years' connection with the transport industry, all of them through one facet or another of the Tilling organisation. Born in County Down and educated at Mercantile College, Belfast, he served an apprenticeship with Crompton and Co., Limited, as it then was, at Chelmsford and went in 1912 to the Peel Conner Telephone Works, Limited, of Salford, which was a subsidiary of the General Electric Co., Limited. Then early in 1914, Mr. Kennedy joined Tilling-Stevens, Limited, of Maidstone, at that time a leading manufacturer of passenger vehicles, mainly with petrol-electric transmission. He returned to that company again in 1919 after service in the Royal Naval Air Service and Royal Air Force. In 1925 he visited New Zealand, Australia, and South Africa on its behalf and in the following year he joined Thomas Tilling, Limited. After a period as engineer to the Harrogate and District Road Car Co., Limited, he returned to Peckham as assistant to the Thomas Tilling chief engineer, subsequently becoming chief engineer and in 1930 joining the board of the company. He resigned at the end of 1948 to take up the appointment with the British Transport Commission from which he is now retiring. Latterly chairman of the Bristol Omnibus Co., Limited, and the associated Bath Electric Tramways, Bath Tramways Motor, and Cheltenham District Traction companies on the operating side and Bristol Commercial Vehicles and Eastern Coach Works on the manufacturing side, the extent of his experience may be judged from his having been chairman, managing director or director of no fewer than 30 bus companies, as well as haulage and car hire concerns. Mr. Kennedy has served as vice-president, honorary treasurer and member of council of the Institute of Transport, to which he has also been a Henry Spurrier Memorial lecturer. He was chairman of the Public Transport Association in 1946-47 and of the National Council for the Omnibus Industry in 1950-51 and again in 1954-55. He has thus a notable record of stalwart and unostentatious service to the bus industry and of sage conduct of its affairs.

IN PARLIAMENT

Government Backing for Aircraft

NOISE ABATEMENT BILL

MRS. B. CASTLE asked the Minister of Aviation to issue a White Paper setting out the sums contributed by the Government to each civil aviation development project since the war, together with the sums repaid to the Government in respect of each project. Mrs. DUNCAN SANDYS told her that the figures, in the form asked for, over this long period were not readily available. He proposed, therefore, to discuss with her how best he could give her the information she required without imposing an undue amount of work on his staff. Mrs. Castle commented that the problem as she saw it was putting the figures in some form over which Parliament could have control. She claimed that over £60 million had been spent on research and development on civil aircraft since 1945.

Mr. J. RANKIN asked the Minister of Aviation what total sums he intends providing towards the initial costs of developing new types of aircraft, of producing a limited number of aircraft over and above firm orders, and of proving and introducing new types of civil aircraft into regular airline service. Mr. Sandys said he could not at present elaborate on his earlier statement on this matter. Thereupon Mrs. B. Castle suggested that it was time that a thorough review was made of the basis on which this public money is put into the hands of private firms. It was desirable that the Government and taxpayers should not only get recoupment of a certain percentage of the cost, but should be given a share in the profits by the acquisition of equities in these companies, carrying with them the right to appoint directors to the boards so that proper control can be introduced.

Mr. Sandys said he had already made it clear in his statement that the Government proposed to make arrangements in the contract with each firm governing the assistance to be granted and for recouping a share of the proceeds. Profits and proceeds were closely related. There was quite an advantage in having a contract which provided for recouping a share of the proceeds, even though there might not be a profit.

Defects of Motorway Hard Shoulders

In the House of Lords LORD CHESHAM, Joint Parliamentary Secretary, M.O.T., said that the Minister was taking urgent steps to see what could be done to strengthen the so-called hard shoulders on the M1 motorway. He was aware that they had received much heavier usage than was expected and had suffered considerable damage in consequence. He did not think it necessary to amend the regulations regarding vehicles stopping in an emergency; on the other hand, he could not say when the work of improving the shoulders would be carried out.

Supersonic Air Liner

MR. G. R. CHETWYND asked the Minister of Aviation what progress has been made in his consideration of the problem of developing a supersonic civil air liner. Mr. D. SANDYS said he was examining with the industry the problem of developing a supersonic civil air liner. He was placing separate study contracts with each of the major airframe groups and with each of the aero-engine groups, all of which had, for some time, been considering this problem. The firms had been asked to study the technical issues involved, including the question of the optimum speed as well as the economic prospects. They had been asked also to explore the possibility of collaboration with suitable foreign firms.

Noise Abatement Bill

"Excessive, unreasonable or unnecessary noise which is prejudicial to health or a nuisance or an annoyance" would be declared a statutory nuisance for the purposes of part III of the Public Health Act, 1936, if the Noise Abatement Bill, 1960 (a private member's Bill) is carried into law. The railways would be exempted. It would be a defence to prove that the best practicable means for preventing or mitigating the noise had been taken, having regard to the cost and other relevant circumstances. Other forms of noise specifically exempted are public loudspeakers on vehicles selling perishables (including ice-cream), where only music is played through them, but use would be limited to the period 8 a.m.—9 p.m. These restrictions would also not apply to railway or bus station announcements.

B.R.S. Capital Charges

MR. A. LEWIS drew a blank when he asked the Minister of Transport what were the annual interest rate charges paid by British Road Services since its formation. He did, however, get an answer about the annual profit or loss. Mr. MARPLES stated that it was not possible to provide the information in the form required. The capital liability of British Road Services represented by British Transport Stock cannot be distinguished from the total issues of British Transport Stock. The average working surplus before allocating any share of the central charges of the Commission—interest and redemption of British Transport Stock and central administration expenses—during the years 1948 to 1958 was £3,200,000. He added that no capital repayments had been made at December 31, 1958.

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The new Bakelite system has been designed to combine maximum ease of application with minimum risk of air-bubble trapping and subsequent pinholing. It is said to permit the production of smooth, even gel coats which show very good wear, weather, chemical and solvent resistance and a degree of flexibility and resilience in the cured condition. Further information is available from Bakelite, Limited, 12-18 Grosvenor Gardens, London, S.W.1.



Rarely are the contours of dancing partners quite so happily disposed. In such a

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TYPE 3 1,550-H.P. DIESEL-ELECTRIC LOCOMOTIVES

For Southern Region Kent Electrified Area

2—POWER EQUIPMENT AND CONTROL GEAR*

ENGINE protection on the Type 3 diesel-electric locomotives for the Southern Region of British Railways built by Birmingham Railway Carriage and Wagon Co., Limited, with Sulzer-Crompton Parkinson equipment is provided to cut off power from the traction motors and stop the engine in the event of loss of lubricating oil pressure or loss of cooling water pressure. Power is cut off from the motors and the engine speed reduced to idling if there is an earth fault on the traction motors or main generator, failure of traction motor blower or loss of control air pressure. Fire protection is by means of suitably placed high-temperature sensitive switches which actuate a warning bell in each driver's cab, shut down the diesel engine and automatically release carbon dioxide. Mounted on a common bedplate and driven by one motor are the water circulating pump, lubricating oil priming pump and fuel oil transfer pump.

Engine cooling water is circulated by the motor-driven pump through the lubricating oil heat exchanger, engine, turbo-blower and radiator panels. The pump which is driven by the motor mentioned above circulates the coolant before the engine starts and this circulation may continue after stopping the engine. In the water outlet manifold on the engine is a throttle plate which by slightly pressurising the jacket water prevents cavitation. At the base of each radiator panel is a tank into which the panels drain to prevent freezing when circulation stops or when the radiator panels are by-passed. A thermostatic valve is fitted to by-pass the radiators until the coolant reaches minimum working temperature. This thermostat is connected to and operated by the pressure in the hydrostatic circuit.

Electrical Equipment

The main generator is a single-bearing 10-pole Crompton Parkinson machine with separately excited, self-excited, de-compounding and starting windings. It is rated as 1,012 kW, 1,760 amp, at 750 r.p.m. The main train heating and auxiliary generator armatures are mounted on a common cast steel rotor with the auxiliary generator built into the structure of the main generator. At the front end the armature shaft is solidly bolted to the crankshaft flange and at the rear is carried in a single roller bearing. Traction-type brush gear is fitted and the brush holders are carried in a revolving rocker fitted with a rack and pinion to enable the brush gear to be serviced from any desired position. A hand barring attachment is incorporated for turning over the engine. Cooling air is discharged downwards from the machine

main generator and the control system is arranged to give the maximum tractive effort without requiring the maximum engine speed. Automatic field weakening is introduced in five stages by means of a pilot motor-operated cam group under the control of the load regulator and a current relay. A combined control cubicle for h.t. and l.t. apparatus is provided while a separate cubicle houses the control gear for the train heating equipment.

To a certain extent the electrical equipment has been developed from that incorporated in the Type 2 and Type 4 locomotives, thus providing for the same features. In the side of the cubicle are meters and auxiliary switches which come under the jurisdiction of the driver. Isolation of any traction motor under fault conditions can be achieved by links provided on both positive and negative sides of the circuit. Control and engine

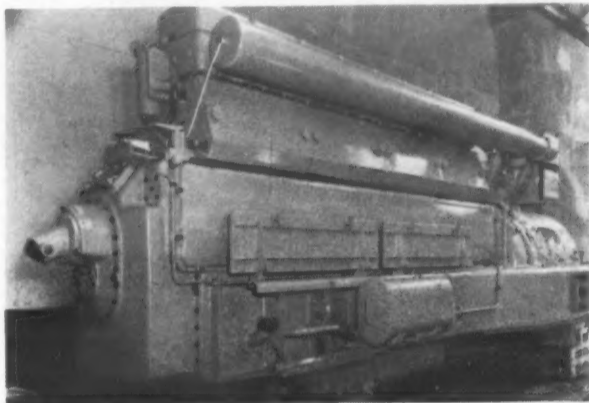
starting is provided from a Crompton lead-acid battery of 48 cells with a capacity of 168 ampere-hours and is carried in two draw-out type boxes, one on each side of the locomotive.

Train Heating

As previously mentioned, provision is made for train heating from an electrical supply at a pressure of approximately 800 volts. This supply comes from the train heating generator which is

integral with the main generator and is driven at engine speed. A d.c. system was chosen primarily on account of the ease of regulation and on the score of efficiency. By taking the train heating supply from the main engine benefit is obtained from a natural phenomenon on which the actual brake h.p. output of the engine depends. The diesel engines are set to give nominal 1,550 b.h.p. corresponding to an inlet air temperature of 85 deg. F., hence for any temperature below this figure the engine output will rise by about 15 h.p. for every 10 deg. F. decrease. In the winter time, therefore, when train heating is required, there is thus a quite considerable reserve of power which can be usefully diverted to train heating without detracting as much from the output for traction as it seems at first sight. Moreover, since in general passenger train loads tend in the winter time to be lower than in the summer, it is confidently expected that the schedules will be well within the capacity of the locomotives at all times.

It has been necessary to make provision for fitting the coaches with either a single-pole feed and running rail return or a double-pole supply, in which case the locomotive jumper is the positive feed and the adjacent carriage jumper the negative. Also in this latter system, which is to become a B.R. standard, is incorporated an interlocking device such that if any jumper in any part of the



The Sulzer 8LDA 28 eight-cylinder diesel engine with Crompton Parkinson generator set



Exterior of Birmingham Railway Carriage and Wagon Sulzer-engined Type 3 diesel-electric locomotive with Crompton Parkinson electrical equipment for Southern Region

through trunking in the locomotive underframe. The train heating generator is a separately excited machine and is situated at the engine end of the main generator frame. It is designed to give a voltage of approximately 800 at any speed from 550 to 750 r.p.m. It is provided with coarse regulation to maintain the voltage within acceptable limits. The auxiliary generator is an eight-pole machine with a continuous rating of 57 kW. The rolling sector type voltage regulator maintains a constant tension of 110 volts throughout the engine speed range.

All four traction motors are series wound forced-ventilated machines. They have a continuous rating of 305 h.p., 440 amp. at 580 volts and drive the axles through resilient gear wheels with a ratio of 62.17. Rotatable brush gear similar to that on the main generator is fitted to the motors and this enables all the brush gear to be serviced from a pit. All auxiliary motors are designed to traction standards and rated to BS.173 for Class B insulation. The traction motor blower is pedestal-mounted with a blower driven from each end of the shaft. The blowers are Aerex hyperform radial flow fans and each blower feeds two traction motors.

Control Gear

The control scheme for these locomotives has been chosen to enable them to operate in multiple unit with other Sulzer-engined units, also with B.T.H.-Paxman units, and with English Electric and the later Brush units for British Railways. The four traction motors are operated in parallel across the

train is disconnected while the heating supply is switched on then the feed to the heating contactor on the locomotive is automatically interrupted. Either system can be selected by the driver according to whether a train is composed of B.R. standard rolling stock (two-pole system) or Continental and certain S.R. type stock (U.I.C. system).

Space Economy

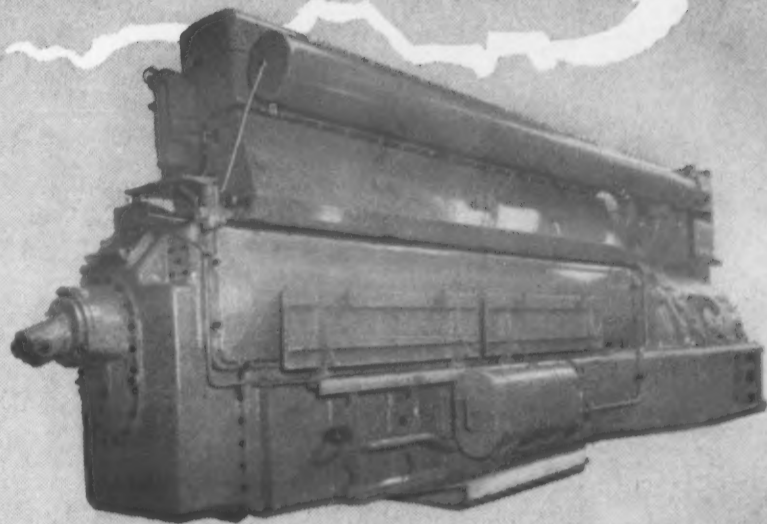
The space economy which results from this arrangement can be clearly seen from the layout of the locomotive, since in this case an eight-cylinder engine of 1,550 h.p. is accommodated within the same overall dimensions and weight limits as the Type 2 locomotives from the same manufacturer. Moreover, the fact that a supply of water for train heating purposes does not have to be carried has meant that as much as 800 gallons of fuel can be accommodated as against 500 gallons on the Type 2 locomotives. Control and indication of train heating is provided in such a way that when two or more locomotives are coupled in multiple unit, it is only the trailing or train locomotive which supplies the train heating and it is for this reason that the capacity of the train heating generator has been made as high as 235 kW. In the case of locomotives coupled in multiple it is not possible mechanically to couple jumpers between locomotives, therefore preventing paralleling of train heating generators.

When train heating is in operation the diesel engine is arranged to idle at 550 r.p.m.—the minimum speed at which the generator will deliver its full rated output and therefore for short periods

(Continued on page 12)

SULZER

*on the
Southern Region*



8LDA28 engine with Crompton Parkinson generator group



Sulzer 8LDA28 engines rated at 1550 H.P. continuous.

Steam power is being eliminated in Kent and Sussex by electrifying as many services as possible and using diesel locomotives and trains for the remainder.

All main line diesel locomotives for the Kent Coast Scheme are being built by the Birmingham Railway Carriage and Wagon Co. Ltd., and will have

SULZER BROS. (LONDON) LTD. 31, Bedford Square, London, W.C.1.



Passengers, as well as operators are enthusiastic in their praise of the superb standards of luxury travel given by Leylands.

IN ALL OUR EXPERIENCE...

"completed 310,000 miles without the engine being opened up."

"performance is as good today as when it was bought seven years ago."

"with 4 to 1 axle ratio and 22" tyres, it can do more than 65 m.p.h."

"with kerbside weight of 9 tons plus 42 passengers it still returns 16 m.p.g."

Leyland

for incomparable transport

LEYLAND MOTORS LTD. LEYLAND LANGS.
Sales Division: Hanover House, Hanover Square, London, W.1. Telephone: MAYfair 8561

... we have never had a vehicle to compare with this Royal Tiger

say W. Lander & Son, Mansfield.

Tributes such as these, although by no means rare, mean a lot to us at Leyland. For it has always been our policy, not only to build the best vehicle at a very competitive price, but also to ensure top operating economy throughout its life. And, remember, a Leyland's life is longer than most.

We've certainly done it for Messrs. Lander with the Royal Tiger. And with the Leyland Worldmaster or Leyland Leopard we can do it for you.

For as good as the R.T. was, its successors are even better, their performance more remarkable and their economy greater still. And you can prove it—by arranging for a demonstration now.

* First portion appeared February 20.

CASTROL HOUSE OPENED

Headquarters of Wakefield Castrol Group

JUST a year ago, the ancient ceremony of "topping out" was performed 168 feet above Marylebone Road, on the roof of Castrol House, the new headquarters of the Wakefield Castrol Group, which was opened officially on February 22 by the Minister of Transport, Mr. Ernest Marples. Covering a site of nearly one acre,

the finest London standards. The basement contains a garage for over 70 cars, as well as service and wash bays.

Opening Ceremony

Mr. Leslie W. Farrow, C.B.E., chairman of C. C. Wakefield and Co., Limited, parent company of the Wakefield Castrol Group, world's largest independent lubricating oil group, presided at the opening ceremony, which was performed by Mr. Marples. Before unveiling a commemorative plaque, he said that in this country we had no option but to come to terms with the motor car. At present there were 8½ million vehicles; in 1975 we must budget for 15 million. In this crowded island the combining of an orderly flow of cars with the retention of the amenities and the preservation of the character of our cities would be quite a formidable task. The problem would not be solved by new road engineering alone nor just by the ingenious application of traffic engineering techniques; it was a question of planning, involving architects, town planners, landscape specialists, engineers—in fact, every ingredient which went into the creation of a community. The Ministry of Transport was setting up a long-term study group to probe into the future of our cities and find a design for living in the last quarter of this century.

Coping with Motors

Future buildings must provide off-street car parks for their own motors. Traffic would never flow if cars were dumped in main streets. He congratulated Castrol on providing more space for parking cars than was actually required by the regulations. There must be a comprehensive plan of reconstruction of our cities which must include some multi-level traffic circulation and the segregation of pedestrians from the roads. "I am simply appalled at the figures of people killed and slaughtered on the road each year. When a ton of



The striking new Castrol House

and 15 storeys high, it is a development carried out by the Hammerson Group of companies. Castrol House is of reinforced concrete frame construction. Its main architectural feature is a 12-storey glass tower which is, by night, one of the new sights of London. This tower is floodlit internally through opaque green glass panels which surround the building beneath windows on each floor.

In addition to the normal office accommodation—the group's headquarters staff numbers 800—Castrol House contains two restaurants, a show-room, several conference rooms, a cinema, an underground garage and, on the 14th floor, a residential suite incorporating five bedrooms mainly for the use of visiting group executives from overseas. From this suite, there is access, via a spiral staircase, to an observation dome on the roof. The building occupies a site on which Octavia Hill lived for 20 years until her death in 1912.

Features

Dominating the entrance hall is a mural (50 ft. by 24 ft.) designed and cast in aluminium by Geoffrey Clarke, A.R.C.A. The designer has made use of primitive symbols to develop his subject—the story of lubricating oil. The building is divided into zones, the temperature being automatically varied to suit the circumstances in each zone as governed by external climatic conditions. Cold cathode fluorescent lighting is controlled automatically by the intensity of daylight, and switches on when required without personal aid whenever daylight fades. The electronic-controlled 13-passenger lifts travel at 500 ft. per minute. The 15th floor is reached from ground level in 20 seconds.

Internal distribution of documents is by means of a pneumatic postal system. The destination is selected by dialling a code number on a container which is placed in a chute and automatically delivered to the desired point in a matter of seconds. The two staff restaurants are situated on the ground floor to serve the whole of the staff in the building. The restaurants are serviced by kitchens with the most modern equipment and a high-grade culinary staff. The cuisine is equal to



Mr. Marples opens the new building

steel moving at 30 m.p.h. and 11 stone of flesh and bone moving at 3 m.p.h. share the same surface, accidents must happen and flesh and bones will never win."

Perhaps in busy shopping centres the pavements could be lifted to the first floor and cantilevered out. The ground level pavements could then be used to widen the existing road on one level and give a safer place for pedestrians on another level at the same time; he would like to experiment.

Electronic Computer Bureau

INAUGURATED IN BIRMINGHAM

ON February 22 an I.C.T. Type 1202 electronic computer, which has been installed at the Midland Data Processing Bureau of International Computers and Tabulators, Limited, Wolverley House, Digbeth, Birmingham 5, was formally inaugurated by Sir Edward Boyle, Bart.,

variety of tasks even if each, by computer standards, is small in volume.

Midland Data Processing Bureau

I.C.T. has therefore installed the 1202 in Birmingham with a view to making it available for any class of data-processing problem on a hire basis. Organisations which would like to avail themselves of the advantages of computer techniques, but which feel that the volume of work does not justify the purchase of the necessary equipment, can now do so. If design problems arise, which may be of an ad hoc nature, or if it is desired to off-load some irksome work such as payroll or stock control, the bureau can handle them on a fee basis. Similarly the machine will be available to concerns which have decided to install a computer and which have programmes to test and preparatory work to try out. A team of investigators and programmers is available at Digbeth, so it is not essential for the potential user to have expert knowledge of the particular machine. This team can handle scientific problems, industrial mathematics, linear programming, and all the normal accounting procedures.

Welcoming the guests Sir Cecil Weir said the bureau was one of 17 such establishments situated throughout the country. It had often been said that the office had lagged far behind the factory in adopting advanced mechanised production techniques. Birmingham, however, was among the pioneers in recognising the advantages offered by office mechanisation. The evidence was that that bureau was one of the earliest of those establishments, having first begun operations 25 years ago.

Today, with its staff of more than 70 skilled technicians and operators, it was able to place at the disposal of managements in the Midland region

(Continued on page 14)



A view of the new I.C.T. bureau in Birmingham

M.P. for Handsworth and Financial Secretary to the Treasury, at a meeting presided over by Sir Cecil M. Weir, chairman of the company. This is the first electronic computing bureau to be established in the Midlands. The fantastic speeds at which electronic computers function have already attracted considerable attention, but, unfortunately, with that interest a false impression has been gained that they are only within the financial reach of very large organisations. While it is true that such machines have a higher capital value than conventional accounting machines, it is also true that they are extremely flexible and so lend themselves to carrying out economically a wide

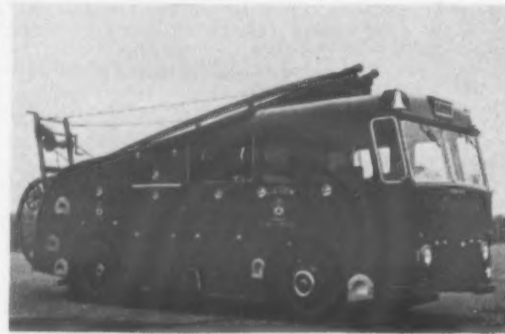
LEYLAND FIREMASTER

In Service With Glasgow

THE second completed Leyland Firemaster, the new-style fire engine which is now being produced by Leyland Motors, Limited, after a 20-year absence from the fire engine market, has just been delivered to the City of Glasgow Fire Service. Different in design from any other fire engine chassis, the Firemaster is powered by a 150-h.p. Leyland horizontal diesel engine mounted amidships below frame level to provide a low centre of gravity for high-speed cornering. The position of the engine also allows the pump intake and

diameter drums with a total braking area of 624 sq. in. At the front of the underfloor diesel engine a shaft taken from the crankshaft drives a power take-off with a two to one step-up ratio. The power take-off drives a 900-1,000 g.p.m. Sigmund main pump and a 25-30 g.p.m. Winn first-aid pump, both mounted at the front of the chassis.

In addition to the pump deliveries being at the front, there is also the main control panel, which can be operated by a fireman standing in front of the vehicle. Controls on the panel include those



Compact, fast and convenient—the new Leyland underfloor-engined Firemaster just delivered to Glasgow Fire Service; right, with front panel open to reveal pump deliveries and main control board



outlets to be mounted at the front, so allowing the appliance to be driven right up to a water supply point.

Glasgow's new vehicle is a 12 ft. 6 in. wheelbase dual-purpose appliance with aluminium bodywork by David Haydon, Limited. Equipped with a 50-ft. Morris Ajax wheeled escape, the appliance has an overall length of 25 ft. 6 in., a width of 7 ft. 6 in. and a height of 10 ft. 6 in. Ground clearance is 12 in. With full 25-gal. fuel and 100-gal. water tanks, the vehicle weighs about 8½ tons, of which the weight borne by the front axle is 3 tons 15½ cwt. Without the wheeled escape, the weight is under 7½ tons.

Two-Pedal Control

The chassis is equipped with a four-speed semi-automatic Pneumo-Cyclic gearbox and a two-speed rear axle with electric gear shift, providing eight forward speeds. Progressive air-pressure brakes operate through diaphragm air chambers on large-

for the pump drive clutch, main and first-aid pumps, engine throttle and main pump primer. There are also delivery gauges for each pump and a vacuum gauge for the pump intake.

The low engine speed of 1,500 r.p.m. is used for pumping, at which speed the main pump is driven at 3,000 r.p.m.; the vehicle transmission is automatically isolated when the pump drive is engaged. Two doors are fitted on each side of the body for rapid boarding and leaving by the crew. A fire bell and hand-operated spotlight are also mounted on each side of the body, one bell being hand operated and the other operated electrically.

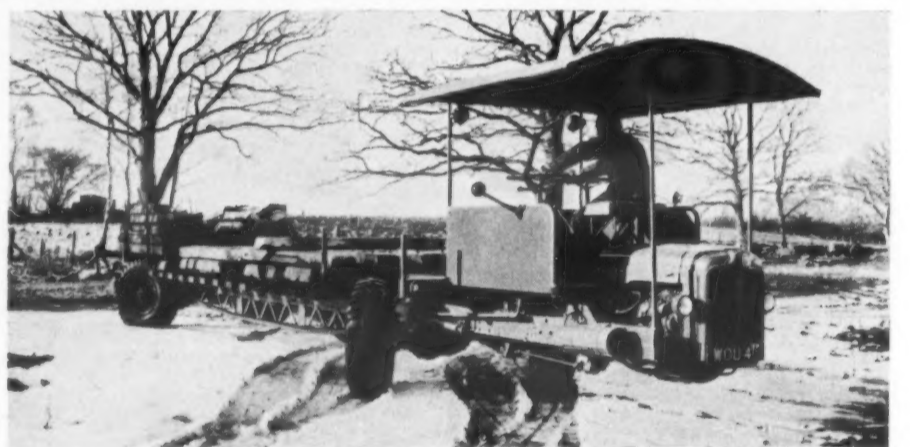
The wheeled escape is carried on a Herculite retractable mounting. Five compartments are built into each side of the body, three being through lockers, one on each side being built-in as far as the rear-mounted 100-gal. water tank, and one on each side immediately behind the cab holding a 240-ft. long reel of hose. A portable searchlight is also carried.

Works Transporter

PRACTICAL VEHICLE BY SMALL FIRM

TWO years' work has gone into the development of the Simmons Transporter Mark II, which, recently announced by a small agricultural and engineering concern, Simmons Engineering, Botley Road, West End, Southampton, appears to be an extremely practical vehicle

reverses his position and sits with his back to the engine, engages the reversing gearbox and the back of the vehicle becomes the front. The low gear ratios and all-wheel steering in this direction, with the business end of the vehicle under the driver's eye, permit extremely precise control and a par-



The Simmons Transporter Mark II demonstrates excellent traction and manoeuvrability loaded with 10 tons of concrete sleepers

for handling long and heavy loads around congested works and construction sites. The Simmons Transporter, which has a load capacity of about 10 tons, has been developed in consultation with a constructional engineering firm working on nuclear power station sites; an order has been placed with Simmons Engineering for 12 similar machines. The prototype has been approved by the Ministry of Transport for operation on the road.

Fordson Major Power

The vehicle has a straight lattice-girder-braced main frame, with an overall length of about 41 ft., carried on two driven axles. Both axles can be steered by means of separate steering wheels and hydraulic power steering gear, making for light handling and extreme manoeuvrability in confined spaces and a turning circle little greater than the length of the vehicle. Power is provided by a Fordson Major industrial unit mounted at the extremity of a long "front" overhang and transmission is through a friction clutch and four-speed gearbox for road operation and single-axle drive, and additionally through an auxiliary reversing gearbox for site work. The auxiliary gearbox provides two stepdown ratios of 2½ and 1½ to 1 and a transfer gearbox in the main propeller shaft incorporates a lockable differential. Vacuum-hydraulic brakes are fitted to all wheels. A temporary open-sided cab on the prototype, which is to be replaced by a more weatherproof structure, houses the controls and two steering wheels side by side, both of which are within comfortable reach of the driver. For road operation, the steering on the rear axle is locked in the straight-ahead position, the driver sits facing the engine and controls the vehicle in the normal way by using one steering wheel only. The vehicle has an average speed on the road of about 16 m.p.h.

For site work and tricky manoeuvring, the driver

particularly useful crabwise movement to facilitate approach to awkwardly situated loading points. The vehicle might well find useful application in timber yards and steelworks as well as on construction sites.

A service depot for London and the Home Counties has been opened at Barking, Essex, by the British materials handling division of the Yale and Towne Manufacturing Co., Limited. Providing an immediate spare parts service to all Yale industrial truck users, the depot is well equipped and is staffed by Yale fitters specially trained for carrying out routine servicing and component repairs. The address is Ripple Road South, Barking, Essex. (DOMinion 5945.)

TYPE 3 DIESEL-ELECTRIC LOCOMOTIVE

(Continued from page 11)

during acceleration, when it is necessary to reduce the engine speed, first to its normal idling speed of 325 r.p.m. and then to build up to 550 r.p.m. or above, the train heating feed is interrupted. In each driving cab are provided three push buttons and an indicator box. It is the driver's responsibility to switch on and switch off the train heating supply but in order that the operating staff may satisfy themselves that the supply is switched off before coupling or uncoupling an indicator box is provided on the rear partition in each driver's cab which is visible from ground level. This indicator is always alight in any driving cab and in addition to exhibiting different colours for on and off indication has illuminated panels which exhibit the words "train heating on" or "train heating off."

ROAD VEHICLE INDUSTRY

Single Tyre To Replace Twins By Firestone

NOW under development by Firestone Tire and Rubber Company, Akron, U.S.A., is a new large-section tyre designed to replace twin tyres on commercial vehicles. It embodies new construction principles, which also permit lower pressures to be used and thus provide a generally softer ride. The new Firestone tyre, which is as yet unnamed, is out of the laboratory and manufacturer testing stages and large numbers are now in use on operators' vehicles for evaluation. Aimed particularly at the heavy-duty articulated vehicle market, the tyre is nearly twice as wide as one of the conventional tyres it replaces and its load-carrying capacity is claimed to be more than double. Apart from easier riding, advantages claimed are improved traction, particularly off the road, reduced space requirements, elimination of sidewall damage due to stones wedged between twins, elimination of overloading of one tyre of a pair running over badly broken ground and lower weight. In the size 18.00-19.5, intended for replacement of a pair of 11.00-22.5, the new tyre and rim assembly weighs 286 lb. compared with 410 lb. for the twin assembly. Fitted to the bogies of a three-axle tractor and a semi-trailer this represents a total saving of 1,000

type equipment. Only vehicles which do not in all respects comply with the normal Construction and Use Regulations are concerned. Copies of the Order can be obtained from H.M. Stationery Office or through any bookseller, price 4d. net.

New Ford Films

THREE new films added to the extensive Ford Film Library were given a first showing in London last week. *First on the Road* and *African Safari* both deal with the new Ford Anglia car, running for 12 and 12½ mins. respectively, the first designed to capture the mood of excitement when taking a new car on the road for the first time and the second a down-to-earth record of just part of the rigorous pre-production testing of the car, in this case in Africa. The third film, *Ford Goes to Moscow*, records the highlights of the recent record-breaking run made in a Ford Thames coach to Moscow, a 1,700-mile journey that was completed in under 45 hrs. at an average running speed of over 51 m.p.h. All the films are available free on loan in 16-mm. gauge (sound).

E.M.I. Showroom Touring U.K.

THE mobile demonstration unit equipped with the latest E.M.I. machine tool systems and other automation aids (MODERN TRANSPORT, September 5, 1959), which recently completed a 4,000-mile tour of Western Europe, is now demonstrating in the United Kingdom. An articulated vehicle hauled by a diesel-engined Commer tractor,

output shaft on the high-speed power take-off runs at 0.993 engine speed, while the low-speed unit runs at 0.612 engine speed.

Sound Deadening Material

A NEW method of suppressing drumming of light-gauge sheet metal has been evolved by Supra Chemicals and Paints, Limited, Hainge Road, Tivdale, Tipton, Staffs. The new material, named Dedshete, is manufactured in flat sheet and is claimed to impart a far higher rate of sound decay than any other material tested. Dedshete is self-adhering and requires no fixing or taping in position; it is simply placed on the metal and stoved for 5 min. at 300 deg. F., when it moulds itself to any contour. Adhesion is permanent and it can be re-stoved at temperatures up to 350 deg. F. without adverse effect. Prior degreasing of the metal is said to be unnecessary, the material adhering readily, even to stock-oiled sheet. Claims made for Dedshete, which is available cut to any size or shape within the limits of 42 in. by 30 in., include elimination of waste, exceptionally low cost of application and saving in labour costs.

Rubber Display at Science Museum

OUTLINING the vital part played by rubber in modern life is a permanent display representing both producing and manufacturing sides of the British rubber industry presented to the

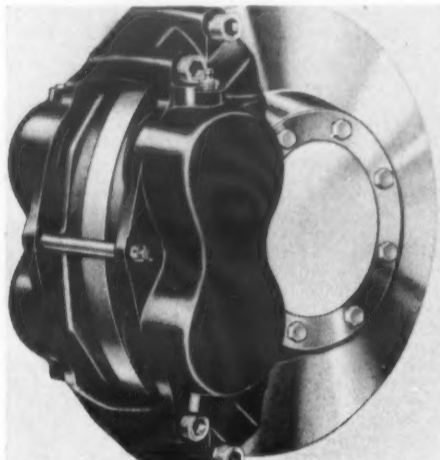


One of two 1,100 cu. ft. light-alloy tippers built for Free, Rodwell and Company by Bonallack and Sons, Limited, with Edbro tipping gear on E.R.F. eight-wheel chassis, for 15-ton loads of bulk malt

ing, Limited, Blackburn. Existing arrangements with Northern Assemblies, which has been associated with Bonallack for a number of years, are unaffected.

Beclawat Training Centre

FORMING part of the extension programme now being undertaken by Beckett, Laycock and Watkinson, Limited, is a new training centre established within the company's research and development department at its main works in Acton Lane, London. The centre is designed to attract school-leavers and training courses in general engineering and specialised training in Beclawat products extend from three to five years.



Girling four-pad commercial vehicle disc brake of the type used on Midland "Red" fast motorway coaches

lb. As far as space is concerned, the 18-in. section new tyre is said to be only half the width of the twin tyres and spacer it is designed to replace.

Rubery Owen Trailer Equipment

FORMED as a new department of the Motor Division of Rubery, Owen and Co., Limited, Darlington, the trailer equipment department will be under the joint management of Messrs. J. T. Pierce and E. Pike from March 1.

Cummins Engine for Vickers Vigor

AN alternative power unit to the 210-h.p. Rolls-Royce diesel engine in the Vickers Vigor tractor is now offered by Vickers-Armstrongs (Tractors), Limited. The alternative is a Cummins NT6BI turbocharged diesel, made at Shotts, Lanarkshire, which is rated at 210 h.p. at 1,800 r.p.m. and develops maximum torque of about 685 lb./ft. at 1,150 r.p.m.

Bedford Night-Shift Work Extended

AS a further move towards meeting the rising demand for Bedford commercial vehicles, night-shift operation at the Vauxhall Motors Luton factory was extended on February 1. Van bodies were already being built day and night and now night shifts operate on light van assembly



Interior and exterior views of a self-service mobile shop mounted on petrol-engined 4-ton Thames Trader chassis supplied by Inglis Autos, Edinburgh. The body has moulded resin-glass roof panels and similar material is used for end ventilators; it carries a deep-freeze cabinet and bacon slicer



the unit carries the latest tape-controlled Kearney and Trecker milling machine, as well as a new E.M.I. commutator undercutter, a dynamic balancing machine and the latest type oscilloscope. Future demonstrations will be made at Glasgow (February 26, 29 and March 1), Hillington (March 3 and 4) and Darlington (March 8). A six-month tour of Europe, including Hungary, Poland, Czechoslovakia and Scandinavia, is planned for later in the spring.

Six-Speed D.B. Gearbox

ADDITION of a new six-speed unit to the David Brown commercial gearbox range is announced. The new unit, designated Model 657, is suitable for a maximum vehicle loaded weight of 22 tons; it is available with a choice of two sets of ratios, one providing an overdrive ratio for high maximum speed and the other with a particularly low bottom gear for dealing with severe climbs fully laden. A first order for 100 of the new gearboxes has been received.

Porvic Battery Separators for Export

PORVIC, the microporous plastic claimed to be virtually indestructible in service, which was developed, patented, manufactured and introduced as the ideal lead-acid battery separator

Science Museum, South Kensington, earlier this month. The display, which was devised and organised by the Federation of British Rubber and Allied Manufacturers and comprises contributions from all sections of the industry, occupies three large showcases in the industrial chemistry gallery of the museum. It illustrates the molecular structure of natural and synthetic rubbers; their production, compounding and processing; and the great variety of products thus obtained and their applications.

Plymouth Recovery Vehicle

FEATURES of a new recovery vehicle designed and built by Plymouth City Transport Department are a well-equipped six-man crew compartment in addition to the normal two seats in the cab and a multi-speed winch. The vehicle is based on a new Leyland Hippo chassis and its recovery gear incorporates comprehensively equipped outside lockers, which include provision for oxy-acetylene cutting gear, a reinforced Harvey Frost crane fitted with twin 4-ton capacity wires and a modified ex-W.D. winch. The winch is driven from a power take-off on an auxiliary step-down gearbox, which is arranged so that any of the five main gears can be used to drive the winch. The 140-ft. 19-ton cable can be passed when necessary over a guide wheel to provide a right-angle



A Rolli-Tanker developed by Goodyear Tire and Rubber Company, for which a contract to supply 166 has been placed, carries 500 gal. of liquid in each 64 in. by 42 in. tyre

A booklet fully describing the scheme and opportunities for careers in engineering in the Beclawat company, which now has manufacturing and selling organisations in Australia, Canada, India, South Africa and Sweden, is available from the company.

Lucas A.C. Generator

OUTPUT of conventional direct-current generators has been progressively increased over the years to cope with the higher loads imposed on the electrical systems of modern vehicles, despite the general reduction of average speed of traffic in towns, without substantial increase in size and weight of equipment. While development of the d.c. generator continues, certain advantages, particularly for vehicles with unusually high electrical loads, can be gained by the use of an a.c. generator and rectifier. Much development work on alternators suitable for motor cars and the smaller types of commercial vehicle has been carried out by Joseph Lucas (Electrical), Limited, and that company has now introduced a machine and its associated controls which shows considerable saving in weight compared with a d.c. machine of equivalent high output. Designated Lucas 2AC alternator, the new



Three views of the Dennis Loline bus with Willowbrook 74-seat bodywork, recently completed for Walsall Corporation. Views show lower deck and upper deck respectively, both looking forward, and, right, the completed vehicle with single-step forward entrance. The vehicle is one of 15 of a current repeat order from Walsall for the type; it has a Gardner 6LW diesel engine, Dennis two-plate clutch and four-speed constant-mesh gearbox and has standard air suspension incorporating Andre Rubber bellows and Clayton Dewandre levelling valves at the rear

and on painting and trimming van bodies and lorry cabs. The increase in cab output is being absorbed at the Dunstable assembly plant without any extra shift. An additional 150 men have been taken on and by March the new shifts at Luton will have resulted in an increase in output of 27 units a day. Bedford light van output will then be at the rate of 193 units daily. Last year, Bedford production broke all records; van production lifted 55 per cent on the previous year and truck production 64 per cent. Yet overall demand is still unsatisfied, indicating still higher records to come this year.

Authorisation of Special-Type Vehicles

AN Order (S.I. 1960 No. 167) made by the Minister of Transport, which came into force on February 11, amends the Motor Vehicles (Authorisation of Special Types) General Order, 1955. The Order permits the use on roads of unladen dumpers (or other unladen special vehicles constructed for moving excavated material) of a width exceeding 11 ft. (the previous limit) subject to specified conditions. It also regulates the use for testing, delivery and so on of vehicles and trailers constructed for export and of prototype vehicles or vehicles with proto-

by Pritchett and Gold and E. P. S. Co., Limited, more than 15 years ago, is now being exported. By increasing its production capacity at Dagenite Works, the company has been able to satisfy home demand and Porvic separators are being made generally available to overseas battery manufacturers. Hundreds of millions of Porvic separators have been used in batteries manufactured in this country and exported all over the world. A well-produced and informative brochure describing the manufacture and range of applications of Porvic separators has been published by the company and is available from Pritchett and Gold and E. P. S. Co., Limited, Dagenite Works, Dagenham Dock, Essex.

High-Output Leyland Power Take-off

A MORE efficient power take-off with a higher output than its predecessor has been introduced for Leyland group vehicles. It is available in two versions—low speed and high speed—for fitment to the right-hand side of gearboxes in Leyland Comet CS3 and ECO2 ranges, Leyland Super Comet, Albion Chieftain, Albion Clydesdale and Albion Reiver. The new unit incorporates pressure-lubricated bearings and other modifications for maximum efficiency. The

pull, in addition to a direct pull over rollers from the rear.

M1 16.6 72+ 20

THE cryptic heading to this paragraph is taken from a recently issued brochure from Dennis Bros., Limited, Guildford, and represents the "vital statistics" of the performance of a Dennis AV4 ambulance making a routine trip fully loaded on the motorway M1. The figures indicate that an AV4 ambulance will cover 20 miles in 16.6 min., an average speed of 72.2 m.p.h., without using maximum speed, a performance the company believes is higher than that of any ambulance in current production. Although this performance was achieved on M1, the company says it might have been on any good road anywhere.

Bonallack Assembly in the North

NORTH of England assembly and after-sales service arrangements for commercial vehicle bodies built by Bonallack and Sons, Limited, Basildon, until recently dealt with solely by Northern Assemblies, Limited, Consett, are to be extended. The Basildon company has completed similar arrangements with Auto Lifts and Engineer-

unit weighs 18½ lb. with fan. It incorporates a stator output winding and rotor field winding energised through a pair of sliprings, so that the collection of heavy currents through a commutator is eliminated and a higher rotational speed permitting useful output at low road speeds is practicable. Lucas silicon diode rectifiers built into the end bracket and cooled by fan convert the output to direct current. The alternator voltage is maintained between pre-set limits by a transistorised regulator in the Model 2TR output control unit. No separate current-limiting device is needed, current being limited by self-reactance to 60-65 amp. cold and 52-57 amp. hot at rotor speeds up to 11,000 r.p.m. A reverse current cut-out is also unnecessary since the rectifier diodes prevent reverse current flowing.

Thames Coach for Brighton Rally

THE Bury coach operator, Warburton Bros. (Bury) Limited, has just taken delivery of a new 37-seat Yeoman-bodied Thames luxury coach, which is to compete in the forthcoming Brighton Coach Rally on April 23 and 24. The vehicle, which was supplied by H. and J. Quick, Limited, is powered by the Ford 6D diesel engine and incorporates radio-public address equipment.

MASSEY-FERGUSON CHANGES

New United Kingdom Organisation

UNDER the title of Massey-Ferguson United Kingdom Operations, a single management group has been established, with headquarters at Coventry, to control and co-ordinate all Massey-Ferguson operating activities in the United Kingdom. These have been greatly increased during 1959 by the acquisition of the large tractor manufacturing facilities from Standard Motor Company, and by the Perkins engine group. Perkins, at Peterborough, will continue to function as a self-contained entity within the new organisation, thus ensuring that the interests of all Perkins engine users will be properly protected.

Mr. A. A. Thornbrough, president of the worldwide company, will for the time being assume executive direction of United Kingdom Operations as managing director. Massey-Ferguson (Great Britain), Limited, will change its name to Massey-Ferguson (United Kingdom), Limited, which company will provide the central management functions required. Mr. Eric Young will be deputy managing director. Statutory and financing requirements covering all British subsidiaries will continue to be met by Massey-Ferguson Holdings, Limited, in London. Mr. Thornbrough said these changes were in keeping with the new global structure of Massey-Ferguson announced recently. The creation of separate operations units in Australia, France, Germany, North America and the United Kingdom, under the overall supervision of a central worldwide corporate staff, would give flexibility.

"The company's manufacturing capacity in the United Kingdom," he said, "has now become a cornerstone of our plans for world expansion. Total group sales from United Kingdom sources for the year to October 31, 1959, amounted to £64 million. Of this, 60 per cent, or £38.3 million, was represented by exports. He revealed that production of tractors and tractor component sets at Coventry was running at the rate of approximately 90,000 a year. Exports of tractors and components to North America now represented a major portion of the company's requirements for that market, where last year tractor sales exceeded 37,000.

The company's factory in Scotland produced nearly 4,000 combine harvesters in the last year. Perkins would provide an increasing part of Massey-Ferguson's world requirements of engines, and the Peterborough production of diesel engines would progressively expand 40 per cent above the 1959 level.

The Problem of Rural Transport

(Continued from page 5)

interest. It is felt that the gradual replacement in selected cases of individual stationmasters by a line-master would produce greater initiative, resulting in services being shaped more closely to the demand.

The case for retaining some branch lines at the expense of subsidy is based on the fact that not only do railway travellers largely become car and not bus travellers when trains are withdrawn, but when a train service is improved it attracts car as well as bus passengers, comfort and speed being coupled with competitive day tickets. One of the railway's advantages, though admittedly it sometimes leads to an unhappy compromise, is that it often groups together several classes of business. In the example of the Moretonhampstead branch in Devon, the trains carried those joining main-line expresses at Newton Abbot, commuters including schoolchildren, shoppers, tourists, and also parcels. Today the parcels go by railway road vehicle, special buses take schoolchildren, people going to or from main-line trains nearly all do so by car or taxi, and if visitors staying at Torbay wish to see Moretonhampstead they go by excursion coach and not the stage bus.

Can Costs Be Cut?

Though few branch lines can be expected to pay and it is right that British Railways should concentrate resources on improving services between populous places, the impression cannot be avoided that there were more trouble taken costs in rural areas could often be drastically cut. The survey revealed examples of signalboxes retained for years at a time though there was never more than one train in the combined "section" between the boxes on either side and no level crossing or other complications, of track being extensively relaid shortly before the closure of branches, of level-crossing keepers being employed at over half their former pay on lines closed to passengers and used by only three goods trains a week, and of maintenance costs of £1,000 a mile annually on lines used only by three goods trains a week.

The staff interviewed during the inquiries were often highly critical of this waste, much worse in some areas than others. Whatever defence might be offered in individual cases, an examination of branch railways and their working leads irresistibly to the conclusion that the reduction of costs is not

being tackled with the urgency required, and that in some areas the engineering and signalling departments show scant regard for economic factors.

Another conclusion of the Dartington Hall survey is that the railways' and bus companies' public relations often leave much to be desired. Rightly or wrongly, many people are convinced that for the most part operators do not trouble to make the best of the admittedly difficult situation. Though some grievances of travellers and would-be travellers may be well-founded, it would seem that whatever the operator is in fact doing, poor public relations result in his appearing worse than he is. It is suggested that many of the national or regional press handouts about timetable and other changes are reserved until the item has lost interest or the news has anyway leaked out. An earlier personal statement to the press by the district executive would always create goodwill.

A particular complaint of the press in some districts concerns the way the announcement of branch-line closures is made. The news sometimes leaks out at the first meeting of a parish council or other organisation after the "brief" has been circulated, and the junior reporter's handling of the story depends on the willingness or otherwise of the clerk to lend him this document, no copy being sent to the local papers. The announcement through a press conference of the proposed closing of a line would have prevented a deal of misunderstanding in some cases. It is also felt that British Railways and bus companies might benefit by consulting the public more readily when the withdrawal of services is under consideration. A personal explanation by a responsible official to local councils might sometimes prevent objection to proposals. At present British Railways usually prepares its case for branch-line closures without local consultations (except perhaps with the biggest freight consignors), the public having the statutory right to "object" through the Transport Users' Consultative Committee. A West Country bus company similarly refused to discuss proposed changes with a local council until they had been formally submitted to the Traffic Commissioners, to whom "objection" could be made. Objection is an ugly word, and a breaking-down of the assumption that the local authority and the transport operator will usually be opposed to each other is desirable.

MODERN TRANSPORT
FEBRUARY 27, 1960

MIDLAND COMPUTER CENTRE

(Continued from page 12)

machines and equipment worth approximately £150,000. And what was perhaps more important, it supplied the knowledge and experience that enabled those high speed accounting and calculating machines to be employed to maximum advantage. Each year the bureau did about 2,000 different data processing jobs for some 150 undertakings in the Midlands.

The service bureaux offered modern and speedy data processing facilities for organisations of all kinds not yet ready to embark on the installation of their own punched card electronic equipment. They were available to undertake for existing users of I.C.T. mechanised accounting machines and techniques urgent work at peak periods. They tested newly projected procedures for I.C.T. users, enabling them to experiment with novel punched card applications, to develop existing procedures and to try out alternative and improved techniques. These might then be incorporated with confidence and assurance of their reliability into established data processing programmes. They provided training facilities for punch operators and supervisors to be employed by I.C.T. customers as replacements or as qualified staff for new installations.

Operational Reserves

They acted as operational reserves for customers who might need help quickly because of such contingencies as the temporary loss of key personnel through sickness, or such hazards as fire, resulting in the entire mechanised data processing equipment being put out of action. They provided facilities for prospective users to witness actual demonstrations of the work they required. They undertook "one off" jobs—solo and often exceptional data processing requirements, such as special surveys and analyses, or the multitude of calculations, for example, needed to produce as at a given date, comprehensive and accurate comparisons exhibiting the effect of applying alternative pension schemes, for examination by each of perhaps thousands of employees, added Sir Cecil.

I.C.T. service bureaux carry out a large amount of familiar accounting work, and, in particular, they supply regularly much vital management information in the form of sales analyses, production planning data, stores and provisioning abstracts and the like. In the Midland bureau there has been undertaken a remarkable variety of mechanised punched card production, ranging from placing the contestants in a beauty competition to determining the best combination of routes to collect rural pupils for a county education authority, from getting optimum throughput of passengers at booking office windows to—as one more transport example—selecting the cheapest method of getting coal to a works out of the alternative methods available. A fascinating task was the assessment of facilities needed at a petrol and oil station in relation to traffic passing and business done. Other commercial research uses are innumerable. With an operator the unit costs £25 an hour to hire, in addition to which programming costs £2 an hour and may involve 100 hours' work. There are some 60 computers of the 1200 series in service with universities and large organisations, including British Railways, the majority on commercial work such as payroll calculation. The next design will be the joint I.C.T.—G.E.C. product for operation by magnetic tape instead of punched card.

Recently the Prime Minister of Turkey, Mr. Adnan Menderes, laid the foundation stone of a £16 million oil refinery at Mersin in South East Turkey. The refinery is being built for a group of three companies, which includes British Petroleum, and will have a capacity of some 3 million tons a year; it is expected to be commissioned in the latter half of 1961. Motor spirit, kerosene, diesel and heavy fuel oils will be produced. Two jetties capable of handling simultaneously two tankers of up to 50,000 d.w. tons each will be built and there will also be a barge wharf.

FORTHCOMING EVENTS

- Feb. 29.—I.R.S.E. F. Edwards, "Rules and Regulations as Applied to Signalling." Bristol Temple Meads Station. 6 p.m.
Inst.T. (E.A.). Annual dinner and visit of past president. Grosvenor Rooms, Norwich. 7 for 7.30 p.m.
Inst.T. (Berks, Bucks and Oxon). D. Stewart, "Training for Transport Management." 32 Thorn Street, Reading. 7 p.m.
R.C.T.S. (Northampton). Dr. A. F. Cook, "Locomotive Development in the S.R." Liberal Club, Castilian Street, Northampton. 7.30 p.m.
- Mar. 1.—Inst.C.E. Underground Station for Western District Post Office, London, S. Blackford and E. W. Cuthbert, "Design and Control." V. H. Collingridge and R. E. Tuckwell, "Construction." Great George Street, S.W.1. 5.30 p.m.
Inst.T. (Scottish). Ross Shields, "The Developing Challenge of Air Transport." 23 Waterloo Place, Edinburgh. 5.30 p.m.
R.C.T.S. (Sheffield). N. Jennings, "T.P.O.L." Livesey Clegg House, Union Street, Sheffield. 7.30 p.m.
Inst.T. (Midland). J. Foley Eggington, "Postwar Acts of Parliament and their Effect on the Road Transport Industry." Engineering Centre, Birmingham. 6.30 p.m.
Inst.T. (North Western). Henry Backhouse, "Lawyers and Licensing." Town Hall Annex, Mount Street, Manchester. 2. 6.15 p.m.
- Mar. 2.—R.Ae.S. Thirteenth Louis Bleriot Memorial Lecture. Dr. E. S. Mout, "Current Problems in Aero Engine Design." In Paris.
P.R.D.G. E. Anstey, "Films." Eastfield Road, Peterborough. 8.45 p.m.
I.R.S.E. M. E. Leach, "Modern Developments in Train Describer Technique." Inst. of Electrical Engineers, Savoy Place, W.C.2. 6 p.m.
E.R.S. Films: A. P. Tait, "Europe's Lighter Railways." R. F. Bedcott, "Kent Coast." 153 Drummond Street, N.W.1. 7.15 p.m.
Inst.H.E. (East Anglia). D. V. Reynolds, "The Economics of Road Improvement." Assembly House, Norwich. 6.45 p.m.
- Mar. 3.—Inst.T. (Merseyside). J. C. A. Whitworth, "The Operation of C-Licensed Vehicles with Special Reference to Distribution Work." Chamber of Commerce, Liverpool. 6.30 p.m.
Inst.T. (South Eastern). Annual dinner. County Hotel, Canterbury. 7.15 p.m.
Inst.T. (Western). Annual dinner and visit of president. Royal Hotel, Bristol. 7.30 p.m.
Inst.C.E. Sir Hugh Beaver, "The Engineer and Civilisation." Joint meeting with I.Mech.E. and I.E.E. Savoy Place, W.C.2. 8.30 p.m.
W.R.L.D.S. Young men's discussion, "The scope for further research as a means of securing greater efficiency and economy in railway operations." H.Q. Staff Dining Club, Bishops Bridge Road, W.2. 5.45 p.m.
- Mar. 4.—I.T.A. (M'side). Annual general meeting and dinner. Inst.H.E. Messrs. E. Bailey and E. Thorpe, "New Methods of Automatic Traffic Control." Institution of Structural Engineers, 11 Upper Belgrave Street, S.W.1.
Rly.C. D. S. M. Barrie, "The Barry Railway." Royal Scottish Corporation, Fetter Lane, E.C.4. 7 p.m.
R.C.T.S. (Lancs and N.W.). R. Dyer, "A North Somerset Mixture." Platform 6, Preston Station. 7.15 p.m.
B.I.R.E. (South Midlands). K. Fearnside, "The Use of Radio Aids in the Control of Modern Transport Aircraft." North Gloucestershire Tech. College, Cheltenham. 7 p.m.
Inst.T. (Northern). J. H. Bustard, "By Road Across the Sea." Royal Station Hotel, Newcastle. 7 p.m.
- Mar. 5.—Inst.T. (Southern). Annual dinner and visit of president. Grand Hotel, Lyndhurst. 6.30 p.m.

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SOCIAL AND PERSONAL

Locomotive Manufacturers' Association

VISCOUNT CHANDOS, D.S.O., M.C., who is chairman of Associated Electrical Industries, Limited, has been appointed president of the Locomotive and Allied Manufacturers' Association of Great Britain for 1960. Mr. G. Collingwood, T.D., managing director, the Vulcan Foundry, Limited, has been appointed chairman of the Association. Lord Chandos and Mr. Collingwood respectively succeed Lord Nelson of Stafford and Mr. G. T. Owen, who have held office for the past two years.

Mr. E. W. Arkle, M.Inst.T., at present director of traffic services in the London Midland Region of British Railways, has been made chief traffic officer, British Railways Central Staff. He succeeds the late Mr. Frank Grundy. Mr. Arkle, who was educated at Marlborough and Exeter College, Oxford, joined the service of the L.N.E.R. in 1923 as a traffic apprentice. After filling posts in the chief general manager's office at Kings Cross and in the goods manager's office at York, he was appointed in 1929 to be head of the works and docks section of the district goods manager's office, Hull. In 1933 he was appointed to be assistant district goods manager, Newcastle. In 1934 he became assistant

Owing to the death of Mr. T. S. Lascelles, president of the Railway Club, the programme for the meeting on March 4 has been rearranged. There will now be a lecture by Mr. D. S. M. Barrie on the Barry Railway.

A reunion dinner for members of 190 Railway Operating Company, Royal Engineers, who served during the war of 1939-45, has been arranged for the evening of April 9, 1960, at the Victory Ex-Services Club, 63-79 Seymour Street, London, W.2 (near Marble Arch). The cost of tickets is 18s. per head, obtainable from Mr. J. E. Stancer, Minorvi, Station Road, Burstwick, near Hull.

Mr. A. E. Flaxman, A.M.Inst.T., commercial officer, Western Region, B.R., has been appointed to succeed Mr. A. A. Harrison as chief freight officer, British Railways Central Staff, the latter, as already announced, having been appointed assistant general manager, Eastern Region. Mr. Flaxman joined the Great Western Railway in 1917 in the office of the chief goods manager at Paddington. He became chief clerk at South Lambeth goods depot in 1942 and in the following year goods agent at Oxford. He returned to London in 1944 as cartage superintendent, Paddington, and was subsequently assistant goods agent at Paddington



Mr. E. W. Arkle



Mr. A. E. Flaxman

district superintendent there and in 1936 district passenger manager. Mr. Arkle was appointed assistant goods manager, North Eastern Area, in 1937, and in 1940 he also took over the duties of assistant passenger manager. He was made assistant general manager, Southern Area, L.N.E.R., in 1943 and in 1945 became goods manager for the Scottish Area of the L.N.E.R. On nationalisation he was appointed assistant commercial superintendent in the Scottish Region, and in 1949 was promoted to the post of commercial superintendent of the North Eastern Region at York. From January, 1954, he moved to the London Midland Region to take up the post of commercial superintendent in that region. In May, 1957, on the new traffic organisation being introduced in the London Midland Region, he was appointed to the post of director of traffic services. He is a member of the B.T.C. design panel.

The Peninsular and Oriental Steam Navigation Company announces the retirement of Commodore J. C. W. Last, O.B.E., of the *Chusan*, commodore of the P. and O. fleet. He will be succeeded by Captain H. P. Mallet, commander of the 29,614-ton passenger liner *Iberia*.

The Minister of Transport has appointed Mrs. D. Elvy, J.P., to be a member of the Transport Users' Consultative Committee for the South Eastern area. Mrs. Elvy will represent the local authorities in the area, in place of the late County Councillor Colonel T. Gregory.

The death is announced of Mr. W. Reed, a director and secretary of Venture Transport Co. (Newcastle), Limited, Consett. He was 76, and was one of three brothers who in 1912 started a bus business which was, in 1938, merged to form Venture Transport.

Mr. George Major, who was secretary and director of Red and White Services, Limited, from 1946 to 1950, and continued as secretary when the company was acquired by the British Transport Commission, has been appointed director and general manager from April 1. He succeeds Mr. Edmund Phillips, who is retiring.

Mr. H. G. Campbell, managing director of Benjamin Electric, Limited, left London by air on February 18 for an extensive business tour of South and Central Africa in order to investigate and study at first hand the complete Benjamin sales organisation, visiting the company's distributors and planning further co-operation, especially on sales promotion.

Four highways engineering appointments are announced by the Ministry of Transport:

Mr. C. E. Hollinghurst, M.Eng., A.M.I.C.E., has been appointed a deputy chief engineer (civil) on the highways engineering staff at headquarters.

Mr. J. A. S. Dakers, B.Sc., A.M.I.C.E., has been appointed to succeed Mr. Hollinghurst as divisional road engineer, Metropolitan Division.

Mr. H. S. Keep, M.C., B.Sc.(Eng.), A.C.G.I., M.I.C.E., is leaving South Eastern Division to take up a new post as an assistant chief engineer at headquarters. He is succeeded as divisional road engineer, South Eastern Division, by Mr. T. E. Hutton, B.Sc.(Hons.), M.I.C.E., A.M.I.Mun.E.

Mr. L. P. F. Hubbard, B.Sc., A.M.I.C.E., A.M.I.Mun.E., has been appointed divisional road engineer, South Western Division, in succession to Mr. Hutton.

Mr. W. Mackenzie, B.Sc., M.I.C.E., has recently retired from the board of management of British Transport Docks and from his position as engineer (general duties) to the board. After initial experience on the staff of Messrs. Rendel and Robertson, consulting engineers, in 1911 he was appointed as an assistant engineer with the Port of London Authority. He was assistant resident engineer for the main dock extension at Tilbury and for the construction of the deep-water river cargo jetty, and resident engineer at Tilbury Docks in 1914 and served in a similar capacity in the Royal Docks and the India and Millwall Docks. In 1931 Mr. Mackenzie joined the London and North Eastern Railway as chief assistant engineer for docks, and in 1947 was appointed chief engineer for docks, with responsibility for the docks at Hull, Grimsby, Immingham, Hartlepool and Middlesbrough. His appointment as engineer (general duties) was in 1952, following nationalisation and he became a member of the docks board of management in 1955.

(1945) and goods agent at South Lambeth (1946), assistant district goods manager at Birmingham (1947) and at Paddington (1948), and goods agent, Paddington (1949). He later became acting district goods superintendent, London, and district commercial superintendent, Worcester. He was then appointed productivity assistant to the commercial superintendent at Paddington. In March, 1954, he was appointed terminals and cartage assistant to the chief commercial manager and in January, 1958, to the position of commercial officer. Mr. Flaxman holds the Brunel medal of the London School of Economics.

Mr. F. W. Young, M.I.R.S.E., has been appointed assistant to signal engineer (electrification), London Midland Region, B.R.

We regret to record the death of Monsieur F. Lorand, permanent delegate to the International Container Bureau for Spain and Portugal since the postwar revival of that organisation.

Mr. G. W. Hall has relinquished his post of managing director of the Fairey Co., Limited, remaining chairman, and his place is taken by Mr. C. H. Chichester Smith.

Mr. H. J. Lynham, A.M.Inst.T., has transferred from the Northern General Transport Co., Limited, as assistant engineer to the East Kent Road Car Co., Limited.

We deeply regret to record the death, at the age of 67, of Mr. Thomas Spooner Lascelles, until his retirement in 1954, managing director of W. R. Sykes Interlocking Signal Co., Limited. He joined that company in 1909. He became its signal engineer in 1927 and in 1942 was appointed to the board and became general manager. He was made managing director in 1953. Mr. Lascelles was



The late Mr. T. S. Lascelles

closely connected with the work of the Institution of Railway Signal Engineers, which he joined in 1913. From 1925 to 1935 he was a member of council and then hon. treasurer. In 1947, he was made hon. general secretary and treasurer and continued in that combined office, being elected a vice-president in 1950 and president for 1952. From 1924 to the end of the 1939-45 war he had charge of the library and was hon. editor of the Institution journal from 1936 to 1947. Mr. Lascelles, who was widely respected as an authority on the development of railway signal engineering and as an analyst of the causes of railway accidents, contributed several papers to the Institution's proceedings. He was president of the Railway Club and should next week have delivered his presidential address for 1960.

Mr. Percy Morris, J.P., has become a member of the Western Area Board of the B.T.C. He was for 10 years national president of the Transport Salaried Staffs Association and until the last General Election was Member of Parliament for Swansea West, which he represented for 14 years. Mr. Morris will fill the vacancy on the board caused by the retirement of Mr. P. T. Heady on completion of his term of office.

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IMPORTANT CONTRACTS

A.E.C. in Canada

RECENT agreement between A.E.C. Limited, and Orenda Industrial, Limited, allows for the extensive marketing throughout Canada by Orenda of the comprehensive range of A.E.C. diesel engines. Very large numbers of A.E.C. engines are already in operation in Canada in passenger vehicles manufactured by the Canadian Car Company, Montreal, and over 1,400 buses serving that city are A.E.C.-powered. Orenda, a leading Canadian jet-engine manufacturing company, will develop the sale of A.E.C. engines for marine, industrial and automotive purposes. The company is a member of the Hawker Siddeley Group, which will continue to represent A.E.C. interests for road passenger vehicles in Canada.

Western Buys Boeing 720s

Western Air Lines, of the United States, has ordered three Boeing 720 jet air liners, the Boeing Airplane Company stated recently. The order brings to 53 the number of 720s now on order and the total of Boeing 707 and 720 jet transports to 207 on order or delivered. Western also has at least one more 720 aircraft on option.

Southern Region Contracts

Recent contracts placed by the Southern Region of British Railways include the following:

John Thompson (Wilson Boilers), Limited, Glasgow, E.I. for new heating plant and boilers at Durnford Road repair shops. Sidney Pratt (Builders), Limited, Exeter, for renewal and reconstruction of loading docks at Exeter Central goods yard. Turnerised Roofing Co., Limited, London, S.W.11, for waterproofing of roofs at Lancing Works. J. W. Ellingham, Limited, Maidstone, for earthworks and drainage at Ashford (Kent). Henry Hope and Sons, Limited, Smethwick, for renewal of metal windows at Eastleigh motive power depot. R. J. Symons, Limited, Esher, for new heating plant thermal insulation at Durnford Road (Wimbledon) repair shop. A. J. Dunning and Sons (Weyhill), Limited, Andover, for replacement of goods lift at Basingstoke.

North Eastern Region Contracts

Recent contracts placed by the North Eastern Region of British Railways include:

Enfield Cables, Limited, Enfield, for m.v. cables and switchgear for East Coast main line resignalling at Tweedmouth. Westinghouse Brake and Signal Co., Limited, London, W.1, for extension to the Newcastle signalling scheme. Edgar Allen and Co., Limited, Sheffield, 9, for a TUP testing machine for Dinsdale welding depot. Keighley Lifts, Limited, Keighley, for an eight-passenger lift at Holgate Villa offices, York. Richard Costain, Limited, Newcastle, for part demolition and alterations to No. 3 Signalbox, Newcastle Central Station. Thos. W. Ward, Limited, Sheffield, for the removal of bridge superstructures and demolition of viaducts on the abandoned Whitby-Leafes line. Wright, Anderson and Co., Limited, Gateshead, for steelwork at Smithy Lane bridge, Lamesley new marshalling yard.

David Brown Gearbox Orders

Production of David Brown automotive gearboxes in 1959 is reported by the company to have shown a 60 per cent increase over 1958 production and prospects are that present production will be maintained during the rest of 1960. Recent large orders include one placed by a leading British commercial vehicle builder, bringing to a total of £70,000 this customer's orders for one particular gearbox, which is also being supplied in quantity to other manufacturers. This gearbox, which first went into batch production only some four months ago, is the Model 552 for vehicles in the 14 to 16 ton range. It offers a choice of four sets of ratios, including one with overdrive.

Crane Replacement at Doncaster Works

Two 67-year-old electric overhead cranes in the diesel shop at Doncaster locomotive works are being replaced by the Eastern Region of British Railways. The two 30-ton travelling cranes at present in use are belt driven and in order to deal more efficiently with the larger diesel and diesel-electric locomotives now coming into use each of the new cranes will have a capacity of 45 tons. The new four-motor cranes, both of which have a 45 ft. 6 in. span, are being supplied and installed by Herbert Morris, Limited, Loughborough, and are expected to be in service by the end of 1960. The necessary strengthening of the crane gantries will be undertaken by the chief civil engineer, Eastern Region.

Caposite Insulation in Seven More Ships

Caposite amosite asbestos thermal insulation materials manufactured by the Cape Asbestos Co., Limited, are currently being fitted by James Walker (Insulators), Limited, Glasgow, to seven ships now building on the Clyde. They are the m.v. *Craigalton* being built by Barclay Curle for Scottish Ore Carriers; the tankers *Pearleaf* and *British Gannet* by Blythwood Shipbuilding for Jacob and Partners and *British Tanker*; m.v. *Bird of Paradise* by Ferguson Bros. for the Government of Trinidad; the two Union Castle Line vessels *Rotherwick Castle* and *Rotherham Castle* being built by Greenock Dockyard Company; and the refrigerated fish factory ship *Fairtry III* building in the Renfrew yard of Simons-Lobnitz for Chr. Salvesen.

Eastern Region Contracts

The Eastern Region of British Railways announces the following contracts:

T. W. Sampson and Co., Limited, Sheffield, 1, for yard lighting and m.v. distribution system for workshop marshalling yards. The General Electric Co., Limited, Birmingham, 6, for additional equipment and modifications to existing equipment at Gas Factory Junction, Bethnal Green, Gidea Park and Stratford in connection with conversion from d.c. to a.c. electrification. The Siemens and General Electric Railway Signal Co., Limited, Wembley, for signalling and automatic warning system equipment between Chelmsford and Colchester. Pirelli-General Cable Works, Limited, Southampton, for traction supervisory cables between Liverpool Street, Chelmsford and Southend Victoria (conversion to 50-cycles a.c. traction). Samuel Butler and Co., Limited, Enfield, for repairs to East Street and Longbridge Road bridge between Barking and Dagenham Dock. South Wales Switchgear, Limited, Blackwood, for one 33-kV ring main unit at Shadwell. Fuller Electric, Limited, London, E.17, for erection of equipment for 25-kV feeder stations and track sectioning cabins for 50-cycle a.c. electrification and earthing equipment, low tension a.c. connections and miscellaneous wiring in buildings on the London, Tilbury and Southend line. The Siemens and General Electric Railway Signal Co., Limited, Wembley, for signalling equipment for remote control of Stepping East and Gas Factory Junction from Fenchurch Street including automatic train control equipment between Fenchurch Street and Bow Junction. Max-Arc and Electrics, Limited, Walton-on-Thames, for eight sets of diesel-electric arc welding equipment.

Marconi Radar for New Rome Airport

Italy's new intercontinental airport at Fiumicino, which is due to be officially opened this year, is to be equipped with what is claimed to be the most modern system of airways surveillance radar in the world. The Ministry of the Italian Air Force, after intensive study of available equipments, has decided to install a Marconi 50-cm. high-power radar, Type S264A/H, together with two display systems (comprising 11 display units), microwave radar link and ancillary equipment. The radar head will be generally similar to that at present being installed at London Airport, except that the Fiumicino installation is designed to provide additional coverage to the south.

(Continued at foot of next column)

SHIPPING AND SHIPBUILDING

Dublin Container Proposals

REPRESENTATIVES of the Cross-Channel Shipowners' Association and three trade unions representing cross-channel dockers were expected to meet in Dublin this week to discuss the four-year-old ban on container traffic. The Labour Court in Dublin has been investigating the dispute for more than a year and has had several talks with employers and unions in an effort to find a solution. Cross-channel shipping representatives last week met Labour Court conciliation officers to suggest new proposals.

Improved Trading Here

LONDON dock had a large increase in inward cargoes for the four weeks ended January 31 compared with the previous year. They amounted to 225,980 tons against 130,570 in 1959. Main increases were in iron ore, petroleum, chemicals and chemical fertilisers.

Merseyside Improvements

NEW facilities forming part of the Mersey Docks and Harbour Board modernisation scheme are now in operation. Last Saturday a vessel, *Rathlin Head*, from St. John, N.B., entered the North West Sandon Dock to become the first ship to make use of a new berth and shed and on the same day the new extension at Vittoria Dock, Birkenhead, came into use for the first time with the berthing of the Blue Funnel liner *Antenor*. This latter scheme is designed to meet the increased length of modern vessels.

Port of New York Record

THE year 1959 set a new high for arrivals and departures of deep-sea vessels at the Port of New York, according to a statistical analysis of vessel activity just released by the Maritime Association of the Port of New York. The total number of oceangoing vessels, incoming and outgoing, registered a record total of 27,260, a gain of 3.6 per cent over the 26,281 vessels recorded in 1958. American flag vessels accounted for 41 per cent of the total number of arrivals and departures at New York. The balance was made up of vessels from 47 nations. Ships of two flags, Guatemala and Ghana, were of special interest, since they were the first merchantmen of these two countries to call at the port.

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

Vulcan Foundry

The group net profit of Vulcan Foundry, Limited, in 1959 was £175,784 (£50,780) and the dividend is 5 per cent (same).

Hall-Thermotank

Hall-Thermotank, Limited, is paying a final dividend of 5d. on the ordinary shares of 5s., making, with the interim dividend, 6d. per share for the year ended September 30, 1959. Group net profit after tax was £262,237 (£379,678).

English Electric

The turnover of the English Electric group rose from £182 million to £189 million in the year 1959. The net profit attributable to the parent company was £3,125,870 (£3,017,258), after tax of £2,575,466 (£2,919,414). The dividend is 10 per cent against the equivalent of 94 per cent.

Bristol Tractors

An application for permission to deal in and quotation of shares on the London Stock Exchange is being made by Bristol Tractors, Limited. The company was formed in 1958 and manufactures inter alia 25-h.p. diesel tractors for industrial, agricultural and forestry purposes, together with a wide range of ancillary equipment such as scrapers, dozers and loaders. The authorised share capital is £163,000 in 815,000 ordinary shares of 4s., of which £108,472 has been issued and fully paid up. Gate House Securities, Limited, has agreed to purchase 136,000 Ordinary shares.

(Continued from previous column)

tional high coverage. The Rome area is a notoriously difficult one for the efficient operation of radar on account of its mountainous nature, which under normal circumstances clutters the display screens with a mass of unwanted permanent echoes. The Marconi equipment discriminates against these, leaving the display screens clear for the plotting of aircraft. The value of the initial contract, which was obtained through Marconi Italiana S.p.A., is approximately £177,000.

Esso Tankers Fit River Radar

Decca River Radar 215, a very high-definition equipment designed for use in narrow congested waters introduced at the end of last year, is being fitted in 11 inland waterway tankers owned by Esso Tankschiff Reederei, G.m.b.H., Hamburg. In Belgium and the Netherlands as well as in Germany, similar tankers owned by the Esso group have been using the original Decca River Radar for some years to enable navigation to be maintained both at night and in low visibility.

Dennis for North Thames Gas

A total of 55 Dennis vehicles ordered recently by the North Thames Gas Board is made up of 40 multi-purpose chassis, 12 articulated tractors and three Pax chassis with Charrol bulk-delivery bodies. The multi-purpose vehicles are designed to carry any one of three different types of body designed to meet seasonal demands. Platforms with chains and stanchions are used for delivery of coke in sacks; box vans are available for appliance delivery; and light-alloy tipper can also be fitted when detachable chassis rear ends are removed.

Ashok Leylands for Indian Projects

Good performance by Leyland Comet vehicles on India's large development projects has helped Ashok Leyland, Limited, Madras, to secure two large repeat orders for these Indian-built diesel-engined chassis. The chief engineer at the Nagarjuna Dam project has placed an order for a further 65 Comet haulage chassis, after operating 12 such vehicles under arduous conditions for almost a year, and Neyveli Lignite Corporation, Limited, has placed its sixth repeat order for a further 12 Comets.

Denmark Orders English Electric Equipment

The English Electric Co., Limited, has received an order from the Danish State Railways for more control equipments for use on the 1,500-volt d.c. electrified sections of the Copenhagen suburban lines. This is the fifth repeat order from Denmark to be placed with the company. With the new order, English Electric will have supplied equipments for a total of 119 motor coaches. The rolling stock, which will be built in Denmark, is normally marshalled to form eight-coach trains, made up of four motor coaches and four trailer coaches. The control equipments will be manufactured at the company's Preston works.



Photo by Courtesy of British Railways Southern Region

NEW MULTIPLE UNIT STOCK FOR KENT COAST ELECTRIFICATION USES

WESTINGHOUSE

ELECTRO-PNEUMATIC BRAKES

Fifty three of these four-car express electric units for British Railways, Southern Region Kent Coast third-rail 750V, DC electrification have mostly been completed at Eastleigh Works, Southern Region. Westinghouse Electro-pneumatic Brakes of the latest improved type are fitted throughout.

Brakes designed and made in England by—

Westinghouse Brake and Signal Co. Ltd., 82 York Way, Kings Cross, London, N.1

India—Saxby & Farmer (India) Private Ltd., Calcutta

Australia—Westinghouse Brake (Australia) Pty. Ltd., Concord West, N.S.W.

South Africa—Westinghouse Brake & Signal Co. S.A. (Pty.) Ltd., Johannesburg

Agents—Bellamy & Lambie, Johannesburg

80 YEARS EXPERIENCE IN DESIGN AND MANUFACTURE OF RAILWAY BRAKES

OFFICIAL NOTICES

HER MAJESTY'S OVERSEAS CIVIL SERVICE

GOVERNMENT OF HONG KONG

MECHANICAL ENGINEER,
KOWLOON-CANTON RAILWAY
(To take up appointment in May, 1960)

RESPONSIBLE to the General Manager of the Railway for the efficient organisation and running of the Railway Workshops, including maintenance and major overhauls of diesel-electric locomotives, carriages and wagons, and ancillary heavy equipment. Pensionable appointment or on secondment if on the staff of British Railways. Salary range £1,500-£2,865. Free passages.

Candidates up to 35 years must be A.M.I.Mech.E. with at least six years' relevant experience in a senior post.

Write to Director of Recruitment, Colonial Office, London, S.W.1, giving full names, age, qualifications and experience, quoting BCD 110/51/02/D16.

WAR OFFICE

TECHNICIANS

WAR Office requires Technicians at Christchurch, Hants., to supervise skilled craftsmen engaged on round-the-clock testing of industrial engines; administrative duties in connection with arrangements for external testing, liaison with manufacturers, and oversight of preliminary tests at their works. Shift work will be required. Qualifications: recognised engineering apprenticeship; practical experience testing internal combustion-engined mechanical equipment; ability to write concise reports; O.N.C., C. & G. Finals or equivalent. Salary: £680 (age 26)—£850 per annum. Application forms from Manager (P.E.266) Ministry of Labour, Professional and Executive Register, Atlantic House, Farringdon Street, London, E.C.4.

CLASSIFIED ADVERTISEMENTS

CLASSIFIED ADVERTISEMENTS should be addressed to THE MANAGER, Classified Advertisements, MODERN TRANSPORT, Russell Court, 3-16 Woburn Place, London, W.C.1.

ACCEPTANCE.—Advertisements can be accepted up to 2.30 p.m. on Monday to ensure insertion in the current week's issue. MODERN TRANSPORT is on Sale every Friday.

SITUATIONS VACANT

MANUFACTURERS of Tubular Seat Assemblies with connections in Passenger Transport Undertakings and Railways require representative or agent to cover these two fields. Write with full details of experience, etc., to Box No. 3828, MODERN TRANSPORT, 3-16 Woburn Place, London, W.C.1.

DEPUTY COMMERCIAL TRAFFIC MANAGER

A DEPUTY COMMERCIAL MANAGER is required in the Traffic Department.

He will be responsible for the direct supervision of all commercial sections of the department including routine costing and rates, connected with road, rail and docks traffic.

Applicants should be fully experienced in road transport operation law and costings and have some knowledge of road, rail and dock rates, accounting procedures, insurance and other commercial matters. An A.M.Inst.T. qualification is desirable.

Please write giving full details of age, experience, qualifications and any further information considered relevant to:

Superintendent, Personnel Services
**THE STEEL COMPANY
OF WALES LIMITED**
(Steel Division)
Abbey Works
Port Talbot, Glam.